GOOD AND BAD TRADE

GOOD AND BAD TRADE

AN INQUIRY INTO THE CAUSES OF TRADE FLUCTUATIONS

BY

R. G. HAWTREY

REFERENCE

LONDON
CONSTABLE & COMPANY LIMITED
1913

CONTENTS

		PAGE
I.	Introductory	1
II.	The Relations between Money, Prices, and Incomes	6
III.	Credit Money	16
IV.	Production	24
V.	A Monetary Disturbance in an Isolated Community with no Banking System	37
VI.	A Monetary Disturbance in an Isolated Community with a Banking System	55
VII.	Origination of Monetary Disturbances in an Isolated Community	73
VIII.	A Monetary Disturbance in an International System with Independent Paper Currencies	88
IX.	Monetary Disturbance in an International System with a Common Metallic Medium of Exchange	102
X.	Social and Economic Changes	121
XI.	Fluctuations of Supply and Demand	130
XII.	Prevalent Forms of Credit Money	147

PAGE

XIII. Typical Banking Systems . . . 158

XIV. The Genesis of a Fluctuation . 175

XV. The Genesis of a Fluctuation—*continued* 189

XVI. Financial Crises . . . 204

XVII. Banking and Currency Legislation in Relation to the State of Trade . . 216

XVIII. Taxation in Relation to the State of Trade . . . 232

XIX. Public Finance in Relation to the State of Trade 243

XX. Can Trade Fluctuations be Prevented? . 255

Index 273

GOOD AND BAD TRADE

I

INTRODUCTORY

In the last hundred years we have learnt to produce wealth on a great scale. Our command of the necessaries, comforts, and luxuries of life, so far as the material conditions of production are concerned, seems almost boundless. But in the same period we have become acutely aware of certain imperfections in the distribution of all this wealth.

The general principle by which the distribution is at present governed is that those only are entitled to share in the accruing wealth of society who assist in the production of that wealth, whether through their personal services or by permitting the use of land or capital which is in their control. Whether this principle would, if it worked smoothly, be a good or a bad one is a question with which I do not intend to deal here. The principle does, in fact, work imperfectly. For many people who possess no accumulated property find themselves from time to time without the opportunity of assisting through their personal services in the production of wealth, even though they would be perfectly competent to do so if the opportunity offered. No one

can live without a share of wealth, and the community is faced with the alternatives of either supporting these people on some other principle than that of payment for services rendered, or letting them want.

The purpose of the principle of payment for services rendered is to put pressure upon all competent members of the community to work (except, of course, those who possess accumulated property). But if a man cannot find the opportunity to work, the pressure is useless; and at the same time his faculties are being wasted so long as he remains idle. There are many contributory causes of unemployment; unforeseen changes in the demand for a commodity, or in the places or methods of production; imperfections in the organisation of industry, in the communication between would-be employers and would-be employed, in the training and selection of recruits for the skilled trades; jealousy and antagonism between skilled and unskilled labourers, between skilled labourers of different trades, between different branches of the same trade. But whatever the relative importance of these causes may be there is one dominating all-pervading fact which appears to require separate consideration, and the special importance of which has been admitted by most of the economists and politicians who have studied the subject. Trade as a whole is subject to a well-marked though not quite regular wave motion, with a period from crest to crest or from trough to trough, which varies from four or five to about ten years. In the trough of the wave business is subject to a kind of paralysis. It becomes abnormally difficult to sell goods, and manufacturers find themselves compelled to reduce their output and consequently to turn adrift some of their workmen. At

such times all the various causes of unemployment appear to be working with more severity than usual. On the other hand, on the crest of the wave, everything seems to prosper. Business is profitable; manufacturers are overwhelmed with orders; practically every competent workman can get work. These fluctuations of trade are important on many grounds, but it is on account of their bearing upon the unemployed problem that an explanation of their causes and true character is most urgently called for.

My present purpose is to examine certain elements in the modern economic organisation of the world, which appear to be intimately connected with the fluctuations. I shall not attempt to work back from a precise statistical analysis of the fluctuations which the world has experienced to the causes of all the phenomena disclosed by such analysis. But I shall endeavour to show what the effects of certain assumed economic causes would be, and it will, I think, be found that these calculated effects correspond very closely with the observed features of the fluctuations.

The general result up to which I hope to work is that the fluctuations are due to disturbances in the available stock of "money"—the term "money" being taken to cover every species of purchasing power available for immediate use, both legal tender money and credit money, whether in the form of coin, notes, or deposits at banks. The banking and currency systems of the world are so intricate and various, and apparently small differences acquire so much importance as the subject develops, that it will be necessary to begin with abstract and artificially simplified assumptions, and to take into account one by one those complexities which

will be necessary to complete a true picture of the actual economic world.

The special importance of money in the theory of trade fluctuations is to be attributed to the fact that *all* branches of commerce and industry are equally dependent, and dependent in the same way, upon the use of money. Whether the economic influences connected with the use of money are great or small they will at any rate be far-reaching.

The principle of distributing wealth in return for services rendered or property lent is carried into effect through the instrumentality of money. The workman receives his pay, the capitalist his profits or interest, the landowner his rent, in the form of money. The money when received represents a power of purchasing commodities within the limit imposed by the amount received as compared with the prices at which the commodities are offered for sale. The producers of commodities depend, for their profits and for the means of paying wages and other expenses, upon the money which they receive for the finished commodities. They supply in response to a demand, but only to an effective demand. A want becomes an effective demand when the person who experiences the want possesses (and can spare) the purchasing power necessary to meet the price of the thing which will satisfy it. A man may want a hat, but if he has no money he cannot buy it, and his want does not contribute to the effective demand for hats. Or he may have money enough to buy a hat and yet may spend it on boots or other more pressing needs.

Economists often think it necessary to emphasise the fact that money is not wealth, but is a mere token

of wealth, used to facilitate exchange. This is true, and must no doubt be grasped by every one who wishes to study economic questions. But at one time economists were so anxious to guard themselves from the fallacy of identifying money and wealth that they slipped into an almost pedantic disregard of the influence of money in economic phenomena. Although money is not wealth it is a most potent factor in economic organisation. And this is indeed so well recognised nowadays that it is hardly necessary to enter a warning against the prejudice which would condemn as superficial any theory claiming primary importance for purely monetary influences.

II

THE RELATIONS BETWEEN MONEY, PRICES, AND INCOMES

THE total effective demand for all finished commodities[1] in any community is simply the aggregate of all money incomes. The same aggregate represents also the total cost of production of all finished commodities. Supply and demand are not mere quantities, but are quantities produced or demanded *per unit of time*. Money income is money received per unit of time—it is so much a year, a month, a week, or a day. The supply of coal, or corn, is so many tons or quarters produced per unit of time—say in a year. The cost of producing all commodities at the rate per annum at which they are being produced is the cost of paying the persons who are assisting to produce them at the rate per annum at which they are being paid.

In England, of course, we have a gold currency. Debts above 40*s.* can only be legally discharged by the payment of gold or by the payment of notes, cheques, etc., convertible on demand into gold. But in some countries the currency is made up of notes which are themselves legal tender and which are not convertible on demand into gold. As a matter of fact, the c[illegible]ries

[1] Including consumable commodities, direct services, and fixed capital. This statement (like several others which follow) must be taken as true in principle, but subject to many qualifications which are not here relevant and the enumeration of which would be tedious.

which use an inconvertible paper currency are usually poor, backward, or politically unstable. But there is no reason why an inconvertible paper currency should not be successfully administered in an enlightened and advanced community without any undesirable consequences. For purposes of illustration it is often more convenient to deal with a country using inconvertible paper than one using a gold or other metallic currency, because the amount of currency in circulation is there wholly within human control instead of being dependent on the supply of a natural product.

Suppose, then, an imaginary community with an inconvertible paper currency. The total effective demand for all commodities per unit of time is the aggregate of all money incomes. The total cost of production of all commodities per unit of time is the aggregate of all money incomes. In order that the effective demand and the cost of production of all commodities per unit of time may be equated to a sum of money accruing per unit of time, the commodities must be priced in money, and the payments to the people engaged in production must be computed in money. The relative prices of the various commodities will be determined by the demand and supply of each. The *relative* remuneration of those who contribute their services or their property to assist in the production of wealth will be determined by the demand for the several forms of wealth produced and the supply of the several forms of services and property offered for that purpose. If every commodity sold [illegible]e unit of time is set down at its money value, the total will be the effective demand for all commodities. If every income is set down at its money value the total will be the cost of production of the same

commodities. These totals are, as we have seen, equal, being merely the total money income of the community seen under two aspects.

But given that such and such commodities are being produced and consumed per unit of time, how will their respective prices and how will their total money value compare with the total stock of money in the hands of the community at any given time? Will a stock of legal tender currency equal to a week's income be sufficient? Or a month's income? Or a year's income? The paper money which we have assumed to be employed has no intrinsic value. Its value is due solely to the fact that the law decrees it to be legal tender, and therefore to be the legal evidence of the possession of purchasing power.

If the paper money is issued in denominations of dollars and cents, then income and prices will be calculated in dollars and cents. The general level of prices and incomes will in some way be proportional to the number of dollars in circulation. If by a stroke of a magic wand every note had its face value doubled, and at the same time every income, every price, every liability were also doubled, the business of the country could proceed precisely as before.[1] The only difference would be one of nomenclature. That amount of value which was called a dollar, would now be called two dollars, but *relative* prices and *relative* incomes would be unchanged. It is certain that, given the number of dollars or other units of currency in existence in any community, the number of such units per annum contained in the aggregate of money incomes is not a mere

[1] The degree of subdivision of the unit of currency for the purposes of small change is a mere matter of convenience, and is not relevant here.

matter of caprice. Since the aggregate of money incomes is proportional to the stock of money, it must be possible to establish some determining relation between them. How, then, is this relation to be revealed? If a community whose aggregate money income amounts to an average of £40 per annum per head of population requires a stock of legal tender money equal to an average of £4 per head, there must be some reason why a stock of £20 a head is not required, and why a stock of £1 is not enough. There must be some reason why with £4 a head the income comes to £40, not £400 or £4 per annum per head.

It might be supposed that in a country using a metal coinage the answer was to be found in the cost of production of the metal. But this throws no light on the case of inconvertible paper.

It is necessary, in fact, to investigate a little more closely the manner in which the money in circulation is used. Assume, at first, for the sake of simplicity, that all transactions are carried out in ready money and that there is no banking system. It is perhaps natural to say that the money in circulation is used by being paid in exchange for commodities or services, and that the scale of incomes and prices depends upon the average number of such transactions for which each coin or note is used in the unit of time. That is, no doubt, quite true, but it does not give us much help, for we still have to discover what it is that determines for how many transactions a coin or note is used on an average in the unit of time.

In fact, the question was, *how* is the money used? and the answer, that it is used by being paid in exchange for services or commodities, was only half an

probably also an unnecessary surplus of ready money to be promptly invested in other securities. As the retention of such a surplus involves the sacrifice of the income that might be gained by investing it, the money will, after circulating for a longer or a shorter time, come to rest either in the hands of a man who needs to replenish his reserve of ready money in order to bring it up to the prudent minimum, or in the hands of a man who invests it in a *new* enterprise. The process of investment in a new enterprise is quite distinct from the purchase of existing securities. The new enterprise must be started by the purchase of new capital, and the money is expended in paying the cost of production of this new capital. The capital may of course take an infinite variety of forms: ships, factories, houses, advertisements, fences, vehicles, roads, harbours, railways, machinery of all kinds and for all purposes, are only a selection of such forms. But whatever form it takes its cost of production will be made up, like the cost of production of any other goods, of the incomes, or contributions towards the incomes, of the persons whose time or whose property is used in the process. In fact, investment is merely expenditure, like all other expenditure, except that the product is something that can be expected to produce income continuously for an appreciable period of time. Thus the money spent in investment passes into the pockets of individuals and helps to make up their working balances or their savings, just like the money spent in producing more ephemeral commodities.

The foregoing description relates to the position of a man *qua* consumer and investor, but his position *qua* producer is not in essence different. Production re-

quires to be financed in exactly the same way as household expenses. There must be a working balance of money sufficient to bridge the greatest gap which exists at any time during the process between the expenses and receipts up to date. A manufacturer who undertakes to supply goods to a wholesale dealer will have to spend considerable sums before he can deliver the goods and receive payment. He must first buy his raw material, and he must then pay wages to his workmen and rent for his factory during the process of manufacture. Finally he gets in exchange for the finished product a sum of money which should normally be equal to all he has spent *plus* a margin or profit, and he is then in a position to begin all over again, and undertake another wholesale order. In the same way the wholesale dealer must be in a position to pay the manufacturer for the goods, and the cost of transport and storage must be paid. The goods will gradually be unloaded upon the retail dealers, who will normally pay to the wholesale dealer a sum sufficient to cover his payment to the manufacturer and all other charges. The retail dealers in turn will recoup themselves with the money paid by their customers who purchase the goods. In fact, all the expenses of all the processes of production, transport, and sale are incurred in anticipation of these payments by the consumers. And as the goods are necessarily sold in driblets to the consumers, while many of the preceding processes can only be carried out economically on a large scale, it follows that large working balances are necessary to finance both industry and commerce.

We have now traced the situation of all the money in a community in which there is no banking system.

The money is kept in pockets, tills, cashboxes, or safes, as a working balance to provide against the uneven progress of income and expenditure. In the case of a person who is saving, this reserve is periodically growing unnecessarily great, and he therefore periodically skims off the surplus and invests it. Money invested is really spent on the creation of capital, and this surplus is thus dissipated among his neighbours in the form of salaries, wages, interest, and rent, and is merged in their working balances. The aggregate of the working balances at any moment depends on the incomes and expenditures of the persons to whom they belong, and on the manner in which these incomes and expenditures accrue. Given the manner in which they accrue, the aggregate of the balances depends on the aggregate of the incomes and the aggregate of the expenditures. But the incomes and expenditures are simply the same quantity appearing on different sides of the account. And the aggregate of the working balances is simply the total stock of legal tender currency in the country. Here, then, in outline is the required relation between the total circulation and the total income of the country. The link connecting the two is to be found in the reserves of working balances of ready money which all recipients of incomes are impelled by prudence to maintain.

Money is merely purchasing power. This is especially obvious when the money used is paper only, without intrinsic value, and is not convertible as of right into anything of intrinsic value. The distribution of incomes among the people is the distribution of purchasing power, regarded as a continuing right, while the distribution of ready money among their pockets is the distribution of

the accrued purchasing power not yet exercised. With an inconvertible paper currency which is sufficiently subdivisible, it cannot matter in terms of what units it is expressed. With given industrial and commercial conditions the relative proportions of incomes and the relative proportions of cash balances will be determined, whether the unit in which they are calculated is called a pound, a dollar, or a franc. Precisely the same reasoning applies to a metallic currency (such as that of India) the value of which is kept at an artificially high level by limiting the quantity coined. And it applies equally well to a freely coined metallic currency which circulates at the market value of the metal of which it is made. The only real difference in the latter case is that the supply of coinage depends on the supply of metal, either newly mined or diverted from other uses, whereas the supply of inconvertible paper or a restricted metal coinage is within the control of the Government.

Thus the case of a community using a freely coined metal currency does not require any separate consideration at this stage.

III

CREDIT MONEY

BUT it is time now to adapt these principles to the case of a community with a banking system. A bank may be defined as an institution which accepts a liability to furnish money *on demand*.[1] Other borrowers accept a liability to pay money on such and such a specified date, which may be near or remote. But a man who has deposited money with a bank has the right to resume possession of it at any time. This right he can at any time assign to any one to whom he wishes to pay money, either by handing him a bank-note or by drawing a cheque, according to the form the bank's liability takes. An assignable right to receive money on demand from a solvent bank is for practical purposes as good as money itself. It is indeed a substitute for the regular legal tender money and is called "Credit Money." In the country with no banks, which has just been considered, it is obvious that any rich man whose income and expenditure accrued in a specially irregular manner would be compelled to keep inconveniently high working balances. Still more would this be the case with large employers of labour and persons through whose hands large sums must pass in order to produce a relatively

[1] No doubt some institutions not technically "banks" accept such a liability, but they have many of the attributes of banks, and the definition given above is, at any rate, broadly if not universally true.

moderate net profit. For these and others in the same predicament a banker offers great advantages. He will relieve them of the necessity of providing a safe place for their money and of paying servants to watch it perhaps night and day. If the money entrusted to him exceeds a very moderate sum he will require no further remuneration for this service than the use of the money so long as it remains in his hands. He will pay interest on sums deposited with him if the depositor undertakes to give notice before withdrawing them, and he will be prepared to lend money in an emergency to any one of whose credit he is satisfied and who has reasonable security to offer. The result is that the man with a banking account need carry very little actual ready money in his pocket, or his cashbox, for he can meet the emergencies for which appreciable sums are required by drawing cheques; and his working balance (of which his balance in the bank thus forms the greater part) does not have to be so great as it would be if he could not count on being able to borrow. Thus his working balance consists not of a single reserve of ready money, but of a whole series of reserves like the successive reserves of an army. He can pay £1 out of the money in his pocket. To pay a sum of £10 he may have to draw a cheque. If he wants to spend £100 he will perhaps withdraw money on deposit. If he wants to raise £1000 he may mobilise his credit and anticipate his future receipts by borrowing from his banker.

Thus the aggregate of accrued purchasing power is no longer limited to the aggregate of the circulating medium. It is now made up of all the actual cash (and bank-notes) in people's pockets, tills, and cashboxes, *plus* all the amounts standing to the credit of their

banking accounts. If the bankers simply kept all the money entrusted to them in chests, this total would be the same as the aggregate of the circulating medium.

But, of course, the bankers make their profits by lending out their customers' money. From the point of view of the banker this money is subject to much the same conditions as if it were his own property. That is to say, a certain portion must be set aside as a working balance, and the remainder, like the savings of the private person, can be invested or put out to interest. As in the case of the private person, the working balance is determined by the extent and nature of the liabilities which it will be called upon to meet. For small transactions it is more convenient to use money than cheques. Every one, therefore, carries about some ready money with him. The man who is earning weekly wages and paying a weekly rent probably has no banking account on which he can draw cheques. His employer must therefore obtain cash every week in order to pay him. This cash finds its way in the course of the week into the hands of shopkeepers, rent-collectors, omnibus companies, etc., who in turn pay it into their banking accounts. The well-to-do people, who receive their incomes at longer intervals and pay the rent by the quarter, usually have banking accounts, but they must, of course, cash cheques from time to time to meet their petty disbursements. Thus the banker's working balance must be sufficient to supply those of his customers who are employers of labour with enough cash to pay their weekly wages bills, and

moment it is not necessary to consider the manner in which the mutual liabilities of two banks will be extinguished. It may be assumed that practically all the money which is paid out of a bank on Saturday for the payment of wages will be paid back by the following Saturday. The payment of relatively large salaries may be assumed to be by cheque, so that no cash reserve need be held for that purpose. But the bank's well-to-do customers will periodically draw out an abnormal amount of ready money for occasions, such as holidays, which demand an unusual amount of petty expenditure and which affect a large number of people simultaneously. The banker must therefore hold in his till (1) the cash required by his customers to pay one instalment of wages to their employees, (2) the cash required to supply his customers with ready money both at normal times and at holiday times; to these we may add (3) a moderate margin for contingencies. Now all these together represent a very small proportion of the banker's liabilities. A contractor will probably receive payment by cheque in large instalments at intervals of several months. The cheques as received will be paid into his banking account. He will pay his expenses, such as the cost of plant, raw materials, rent, etc., at appreciable intervals. One week's wages bill will be quite a small fraction of the sum standing at any time to his credit.

The shopkeepers again (though they, like others, will require money for their wages bills) will accumulate their takings at the bank over appreciable periods until they are required to pay wholesale dealers' bills or

estimate) the weekly bill is under £20,000,000, a mere trifle compared with the aggregate of deposits, etc., in the banks, which do not fall far short of £1,000,000,000.

The reserve which a banker is positively obliged to keep in normal times is thus a very small percentage of his total liabilities—5 per cent is a liberal estimate. But it occasionally happens that there is an abnormal demand for money, that is, for actual tangible cash, not for a mere balance at a bank. For example, in the actual financial organisation of the world gold may be needed to be exported to a foreign country to which the conditions of trade have made the export profitable. In a country which uses paper or silver as its circulating medium, and in which no banker is therefore under an obligation to honour his customers' cheques in anything but paper or silver, such a contingency cannot arise. But in practice gold is the ordinary medium (whenever any such medium is required) for the ultimate settlement of international debts, and this is so because the great commercial countries of the world have adopted gold as the material of their ordinary internal legal tender currency. In those countries the obligation of supplying gold for use in international trade falls absolutely on the bankers. To be ready to meet this and other similar obligations a banker is bound to maintain a further reserve in addition to the working balance kept for the purposes enumerated above. Now this contingency may happen equally to any bank. Any customer may wish to draw out large sums of gold at a time when the market is asking for

reserve. But just as the individual can insure against contingencies by calling in aid his credit with his bankers, so the banker can insure against contingencies by calling in aid his credit with other bankers. He can lend or invest all but a moderate proportion of the money entrusted to him, and if he is suddenly called upon to pay out more gold than his reserve will meet, he can supplement it by borrowing from the other banks. Thus, instead of each bank having to be prepared to meet the maximum demand for gold that could fall upon it, it is only necessary for all the banks together to have enough gold between them (over and above their working balances) to meet the maximum demand that could fall upon the market as a whole.

But even this is not the ultimate refinement in the organisation of the reserve of money. Where each of a score of big banks depends upon all the others, there may in an emergency be a hitch at any point of the complicated chain of credit. If doubt is thrown on the solvency of any one of them, its position remains impaired unless it can persuade each of the others that its resources are adequate and realisable. Any one of the banks may at any time arbitrarily refuse to lend. There is no security that the aggregate of the reserves kept will be sufficient for all emergencies. In short, a community of banks with mutually dependent credit and mutually independent management will be weak from the absence of any central control. The solution which has been found by those of the great modern states which have been most successful in banking, is to set up one responsible central bank, more or less intimately

estimate) the weekly bill is under £20,000,000, a mere trifle compared with the aggregate of deposits, etc., in the banks, which do not fall far short of £1,000,000,000.

The reserve which a banker is positively obliged to keep in normal times is thus a very small percentage of his total liabilities—5 per cent is a liberal estimate. But it occasionally happens that there is an abnormal demand for money, that is, for actual tangible cash, not for a mere balance at a bank. For example, in the actual financial organisation of the world gold may be needed to be exported to a foreign country to which the conditions of trade have made the export profitable. In a country which uses paper or silver as its circulating medium, and in which no banker is therefore under an obligation to honour his customers' cheques in anything but paper or silver, such a contingency cannot arise. But in practice gold is the ordinary medium (whenever any such medium is required) for the ultimate settlement of international debts, and this is so because the great commercial countries of the world have adopted gold as the material of their ordinary internal legal tender currency. In those countries the obligation of supplying gold for use in international trade falls absolutely on the bankers. To be ready to meet this and other similar obligations a banker is bound to maintain a further reserve in addition to the working balance kept for the purposes enumerated above. Now this contingency may happen equally to any bank. Any customer may wish to draw out large sums of gold at a time when the market is asking for gold. If every bank had to provide separately against such an eventuality it would have to keep a very considerable portion of its assets in the form of a gold

reserve. But just as the individual can insure against contingencies by calling in aid his credit with his bankers, so the banker can insure against contingencies by calling in aid his credit with other bankers. He can lend or invest all but a moderate proportion of the money entrusted to him, and if he is suddenly called upon to pay out more gold than his reserve will meet, he can supplement it by borrowing from the other banks. Thus, instead of each bank having to be prepared to meet the maximum demand for gold that could fall upon it, it is only necessary for all the banks together to have enough gold between them (over and above their working balances) to meet the maximum demand that could fall upon the market as a whole.

But even this is not the ultimate refinement in the organisation of the reserve of money. Where each of a score of big banks depends upon all the others, there may in an emergency be a hitch at any point of the complicated chain of credit. If doubt is thrown on the solvency of any one of them, its position remains impaired unless it can persuade each of the others that its resources are adequate and realisable. Any one of the banks may at any time arbitrarily refuse to lend. There is no security that the aggregate of the reserves kept will be sufficient for all emergencies. In short, a community of banks with mutually dependent credit and mutually independent management will be weak from the absence of any central control. The solution which has been found by those of the great modern states which have been most successful in banking, is to set up one responsible central bank, more or less intimately associated with the Government. The other banks, instead of depending on one another, depend on the

central bank. They are no longer responsible for keeping enough gold between them to supply the market in an emergency; they merely maintain their working balances, and instead of keeping a further reserve in gold they open accounts with the central bank. Any bank which needs to find a large sum in gold can draw upon its account with the central bank, and, if the balance to its credit is insufficient, can borrow. Every demand for gold, outside the current transactions of every day, then falls upon the central bank, and the directors of the central bank are at all times in immediate touch with all such demands. They are the first to receive the gold imported into the country; they supply gold when it is needed for export. It is for them to calculate, having regard to all possible emergencies, how much gold they must hold in reserve. How they are to solve this problem, and what steps they must take to put their conclusions into practice, are questions which will have to be dealt with at a later stage.

We are now in a position to give in outline a complete answer to the question, what is all the money in the country doing? It is maintaining working balances: *first*, the working balances of all the members of the community so far as their daily expenditure of actual cash is concerned; *secondly*, the working balances of all trading concerns which pay or receive cash across the counter; *thirdly*, the working balances of the banks; *fourthly*, the cash reserves of the central bank. This aggregate of cash supports a far larger aggregate of purchasing power, in the form of rights possessed by people with banking accounts or by holders of bank-notes to obtain cash on demand. Behind this, again, comes the power (though not an absolute right) to

borrow on good security up to an imperfectly defined limit. The aggregate of purchasing power and the aggregate of borrowing power are, *other things being equal*, proportional to the aggregate of cash.

We shall have to consider the relations between these aggregates when other things are not equal in more detail at a later stage. It is sufficient here to point out that the aggregate of money incomes bears the same relation in a community with a banking system to the aggregate of purchasing power, including credit money, as in a community without a banking system to the aggregate of legal tender currency.

IV

PRODUCTION

HITHERTO we have been dealing with the relations between the stock of money in circulation and the various economic entities such as incomes, prices, cost of production, etc., into which the unit of currency enters. But it is necessary also to turn for a moment to the conditions of production, so far as those conditions concern our present purpose.

Production is normally undertaken with a view to profit. It is intended that the thing produced shall be something which people want, and which they want keenly enough to buy at a price which will cover the cost of production. The prospect of receiving such a price is intended in our form of society to be the producer's sole motive to produce. Producers who produce for other motives are philanthropists—a term of reproach. And at any rate it is, in general, true that producers produce for profit.

What then is the "cost of production"? This cost falls into two categories, the wages of labour and the fees (such as rent or interest) payable to the owners of property used in the process.

The remuneration of the ordinary undistinguished labourer is simply the sum which the employer must pay him for giving up his time. However much or however little actual toil the labourer is called upon to

do, his working day is an opportunity for assisting in the production of wealth, and so long as his time is occupied to the exclusion of other remunerative pursuits, he must be paid according to the standard prevailing in the labour market. Under the competitive conditions of the market this standard prescribes at any time a more or less definite rate of remuneration for independent adult labour. In trades which require special aptitudes the wages will rise perceptibly above the standard, the extent of the difference depending largely on the ease with which the necessary aptitudes can be acquired. But practically all trades demand some skill, and the man who acquires no skill has little chance of maintaining the position of an independent citizen at all. So, although, for this and many other reasons, wages do vary from trade to trade, it is right as a first approximation to say that, outside the relatively few who are paid high salaries for using their judgment and initiative, a week's wages represents the market value of the services of an able-bodied man for a week, and this standard wage is the fundamental unit in reckoning cost of production.

Of the more highly paid employees who do not conform to this description, the only function which it is necessary to consider is that of supervising and directing the wage-earners. A number of men cannot combine to perform one task unless they are under some unified control. The people responsible for exercising this control must issue directions to the workmen so that each may know every day what he is to do. They must also decide how many men are to be employed and what plant will be necessary. All these functions may be either ill or well carried out. If they are ill carried out

the consequence will be the retention of some men who are given nothing or not enough to do, or who are given work to do which does not need to be done or will have to be undone. This is waste. Waste usually consists in occupying the time of a competent workman without applying it to any useful purpose. The employment of competent supervisors will reduce waste. The ability of one man may by this channel come to be worth the wages of 1000. If such ability is very rare he may receive a salary approximating to the sum which he saves. If it is fairly common, his salary will be quite moderate. If practically any one is competent, without special training or ability, to undertake the business, the remuneration will ultimately sink to the ordinary market wage.

Thus, so far as labour is concerned, the basis of the cost of production is the number of days' work for which a market wage must be paid, *plus* the cost of supervision.

The other element in the cost of production is the fee paid to the owner of property used in the process. This property falls into two classes, land and capital.

"Land" means the earth's crust. But, for economic purposes, it is necessary to distinguish two different ways in which land is employed to assist in the production of wealth. First, the actual stuff of the earth's crust is used to provide the raw material of industry, either inorganic materials obtained from mines, quarries, etc., or organic materials grown in the soil. Secondly, the processes of manufacture and transport, and, indeed, all the activities of mankind demand *space*. Any given piece of the earth's crust may be wanted for the production of materials, such as

crops or minerals, or it may be wanted merely to afford space for buildings, roads, etc. Where there is a private ownership of land, and free competition, each plot will in general be put to the use which its owner expects to be most profitable.

A plot of land may be hired for a fee representing the market value of the most profitable use to which it can be put, and proportional to the period for which it is hired. If the most profitable use is the production of materials, the fee paid will depend partly upon the natural efficiency of the land in producing those materials, that is to say, the fertility of the soil or the richness of the mines or quarries; but it will depend partly also on the convenience of the situation in relation to the agencies of manufacture and transport and to possible consumers. If, on the other hand, the most profitable use is for the erection of buildings, the value of the land will depend almost entirely on its situation and conformation; it will, in fact, be almost exclusively its value as space, or "site value."

It is not necessary here to enter into all the intricacies of the theory of economic rent. The foregoing summary will be sufficient to distinguish land from capital, to which we now pass.

Capital may, for our present purpose, be defined as those material aids to production which are created by human agency. The characteristic of capital so defined is that it derives its value in exchange from its use in producing other things which have an exchangeable value. In a sense, no commodity has value in itself, but only as the means to the satisfaction of some need. If I want a loaf, it is as the means to the satisfaction of my hunger. But if I want an oven to bake my loaf,

the consequence will be the retention of some men who are given nothing or not enough to do, or who are given work to do which does not need to be done or will have to be undone. This is waste. Waste usually consists in occupying the time of a competent workman without applying it to any useful purpose. The employment of competent supervisors will reduce waste. The ability of one man may by this channel come to be worth the wages of 1000. If such ability is very rare he may receive a salary approximating to the sum which he saves. If it is fairly common, his salary will be quite moderate. If practically any one is competent, without special training or ability, to undertake the business, the remuneration will ultimately sink to the ordinary market wage.

Thus, so far as labour is concerned, the basis of the cost of production is the number of days' work for which a market wage must be paid, *plus* the cost of supervision.

The other element in the cost of production is the fee paid to the owner of property used in the process. This property falls into two classes, land and capital.

"Land" means the earth's crust. But, for economic purposes, it is necessary to distinguish two different ways in which land is employed to assist in the production of wealth. First, the actual stuff of the earth's crust is used to provide the raw material of industry, either inorganic materials obtained from mines, quarries, etc., or organic materials grown in the soil. Secondly, the processes of manufacture and transport, and, indeed, all the activities of mankind demand *space*. Any given piece of the earth's crust may be wanted for the production of materials, such as

crops or minerals, or it may be wanted merely to afford space for buildings, roads, etc. Where there is a private ownership of land, and free competition, each plot will in general be put to the use which its owner expects to be most profitable.

A plot of land may be hired for a fee representing the market value of the most profitable use to which it can be put, and proportional to the period for which it is hired. If the most profitable use is the production of materials, the fee paid will depend partly upon the natural efficiency of the land in producing those materials, that is to say, the fertility of the soil or the richness of the mines or quarries; but it will depend partly also on the convenience of the situation in relation to the agencies of manufacture and transport and to possible consumers. If, on the other hand, the most profitable use is for the erection of buildings, the value of the land will depend almost entirely on its situation and conformation; it will, in fact, be almost exclusively its value as space, or "site value."

It is not necessary here to enter into all the intricacies of the theory of economic rent. The foregoing summary will be sufficient to distinguish land from capital, to which we now pass.

Capital may, for our present purpose, be defined as those material aids to production which are created by human agency. The characteristic of capital so defined is that it derives its value in exchange from its use in producing other things which have an exchangeable value. In a sense, no commodity has value in itself, but only as the means to the satisfaction of some need. If I want a loaf, it is as the means to the satisfaction of my hunger. But if I want an oven to bake my loaf,

the oven is merely the means of obtaining the loaf. The loaf, as a direct means to my satisfaction, is classed as a consumable commodity; the oven, as a means to the production of a consumable commodity, is capital.

Capital, like other exchangeable commodities, has its cost of production. The cost of production of capital is in turn an element in the cost of production of the commodities which the capital is used to make. If the capital takes the form of raw material or anything else which is used up in a single process, the whole of its cost of production must be included in the cost of production of the finished product. But the case of fixed capital which is used again and again, perhaps continuously for many years before it is used up, requires further consideration. It is still true that this fixed capital derives its value exclusively from its use as an aid to production. By its means more commodities can be produced for less labour; it is, in fact, a labour-saving device. But this saving is effected at the cost of the labour expended in producing the fixed capital. How is this labour to be divided in the form of cost of production among all the commodities produced? And how great a saving in the cost of production of these commodities will justify a given expenditure of labour in producing the capital? It is clear, at any rate, that the saving must be greater than the expenditure. If the two were merely equal, there would be no inducement to produce the capital and to wait for years to complete a return which after all would be no more than could have been obtained without any waiting at all. Some margin of the saving of labour over the cost of the capital is necessary to pay the capitalist for the delay in obtaining consumable

commodities in exchange for his expenditure. The greater the delay the greater must this margin be.

A man who is working with his own capital may not distinguish in his accounts the precise saving which he realises by any extension of his capital which is paid for from his own resources. But a man who extends his capital by means of borrowed money must pay a fee, in the form of interest, for the sum borrowed, and he can only decide whether this is or is not worth while, by calculating whether the annual saving due to the extension of capital will or will not cover the annual payment of interest.

A capitalist who borrows will borrow with a view to adding to his business that one of all possible extensions of capital which seems likely to produce the greatest annual additional profit in proportion to its first cost; and this proportion will represent the highest rate of interest at which he will be willing to borrow. An intending lender will lend to that capitalist who offers him the highest rate of interest. This, of course, is the ordinary operation of supply and demand in an open market. The effect is to equalise the rates of interest asked and offered so that there is a single market rate (differences due to differences in the credit of the borrowers may for the present purpose be neglected). This state of affairs can only be reached if every business is supplied with capital up to such a point that an extension of its capital would earn additional profit equal to or less than the interest upon the cost of the extension. If an extension in any business would earn a greater profit than this, lenders will tend to select that business for their operations, until it also is supplied with capital up to the prevailing level. It is hardly necessary

to say that the speculative element in these operations makes the practice very different indeed from the theory. But still, there remains this central fact that people engaged in industry can afford to borrow money for the purchase of new capital at a rate of interest not greater than the probable annual saving of labour due to the new capital as compared with its cost. It is important to notice that the primary function of capital (once the absolutely necessary minimum is provided) is to save *labour*. We are accustomed to express this by saying that it saves or earns *money*, but the saving of labour is the ultimate physical fact. If mechanical road sweepers save the rates, that is because one man with a mechanical sweeper can do the work of several with brooms. The reduction in the number of men is a physical fact, of which the reduction in the cost is merely an economic consequence. In any country in which the amount of capital per head increases, the rate of interest has a tendency to fall. If one generation has discovered all the most profitable openings for the investment of a fund of capital amounting to £100 per head, and if the next generation finds openings for the investment of a fund of capital amounting to £150 a head, the new openings must, other things being equal, be less profitable than the old. On the other hand, new inventions and improvements in organisation have a precisely contrary tendency. Every new invention is, in fact, a new opening for investment, and until the invention has come into the most extended use for which it is adapted, this investment may command profits far exceeding the market rate of interest. But in practice neither of these tendencies can, at any rate in a wealthy modern state, act very quickly. The

additions made in one year to the national stock of capital are small compared with the total; the progress of invention may be rapid now and then in one particular industry, but it is rarely widespread enough to have any very marked or sudden effect on trade as a whole.

Here then is the answer to the question, how does capital enter into the cost of production? It appears in the form of the interest on the cost of production of the capital. This is in appearance a vicious circle, for capital enters into the cost of production of capital. But that objection does not really arise, for the capital already in existence and the new capital in process of creation are in competition with one another. The cost of production of the old capital becomes, for practical purposes, the cost at which new capital like it might be produced, and the rate of interest tends to be that which, assumed on new and old capital alike, will just make the employment of new capital profitable.

The foregoing remarks apply to *fixed* capital, that is to say plant, more or less permanent in character, which will continue so long as it is kept in repair to earn in labour saving a certain percentage on its first cost. But the term capital includes commodities, such as fuel and raw materials, which are consumed in a single process of production, but which still are only *means* of production. An interval, short or long, elapses between the production of such commodities and the completion of the consumable goods into the manufacture of which they enter. This interval, like delay arising from any other cause in the fruition of the products of labour, must be paid for. From the point of view of the capitalist who controls the means of production, there

is no important difference between the application of labour and plant to one purpose or another, and he will exact payment for this delay on the same terms as for the longer delay arising in the case of fixed capital. In other words, circulating capital and fixed capital will be in competition as fields for investment, and the same rate of interest will be required from both. Thus in any business working under normal conditions the price received for the finished product should be sufficient to cover not merely rent and interest on fixed capital and the actual expenditure on labour and materials, but interest at the market rate on this expenditure for the period which has elapsed since it was incurred.

Up to this point we might regard the cost of production, including rent, interest on capital and payments for supervision, as well as wages, as expressed in terms of days' work. The finished product represents the work of so many men for so many full days, and the other charges represent fees in respect of various savings of full days' work, due to the favourable situation of the land occupied, to the skill of the supervising staff, and to the use of mechanical appliances.

But in the market the cost of production is expressible in money. The condition of profitable production is that the price obtained for the finished commodity shall not be less than the cost of production. Both price and cost must be measured in money. In order to determine on what scale they will be measured, it is now necessary to return to the machinery of distribution already described.

It was laid down that the total effective demand for all commodities is simply the aggregate of all incomes, and that the same aggregate represents the

total cost of production of all commodities. Some qualification requires to be made in this broad statement. Incomes are made up partly of earnings, partly of rent and interest. The greater part of these are directly connected with the production of commodities. Some, however, such as the earnings of actors, musicians, lawyers, and doctors, and of people engaged in one way or another in the work of government, are the remuneration of services which do not contribute to the production of any concrete commodities. These services, by an artificial stretch of language, may themselves be classed as "commodities."

But a further correction is still required. The definition of capital as the material aids to production excludes a number of forms of property, such as houses, gardens, and furniture, which are consumable commodities, but in which, as being of a durable character, savings are ordinarily invested, and for the use of which an annual sum comparable to interest may be paid. The amount of such annual sums will be brought by competition into line with the rate of interest. The income derived from this kind of property can only be regarded as part of the cost of production of a commodity if the enjoyment of the property for a specified time, not the possession of the property itself, is taken to be the "commodity." It is perhaps unnecessarily pedantic to strain language by such devices, but the exceptions thereby surmounted have not enough importance to merit separate treatment at the cost of sacrificing not only symmetry, but also clearness.

We can now say simply that the aggregate of incomes is equal to the total cost of production of all commodities. Each income represents the purchasing power per

annum of its possessor. This purchasing power is exercised in part upon consumable commodities, in part upon capital. In so far as it is exercised upon capital it is none the less expended in the purchase of commodities, but these commodities are *durable*, whether they are used for immediate enjoyment, or as the means to the production of other commodities. Thus the whole income (except such as goes to increase the working balance) is *spent*, whether it is saved (i.e. invested), or not. In the long run all incomes are being completely expended, and the aggregate of all incomes over a period of time is the aggregate of all people's expenditure over the same period, and is therefore equal to the aggregate of the sums paid for all articles bought for consumption or investment, or in other words to the aggregate of the sums received for all articles, perishable or durable, sold for those purposes.

If we can imagine a perfectly stable condition of society in which the birth-rate and death-rate are equal; in which the aggregate income, the stock of money, the aggregate of bank balances, the scale of prices, are all constant; in which all tastes, all demands, all processes remain unchanged; in which capital is always sufficiently renewed and replaced, but never extended; in such a condition of society the standard wage represents a definite and constant sum of money per week, which forms the basis of the cost of production of all commodities. The prices of commodities will be permanently equal to their respective costs of production (inclusive, of course, of all monopoly and scarcity profits, which may be assumed to exist and to be permanent). This is simply to imagine society without those fluctuations of trade which form our

present subject, and to which we are now prepared to turn.

In dealing with fluctuations it is necessary to qualify in one important respect the equations which have been established above. Those equations relate the aggregate of all incomes, the aggregate cost of production of all commodities produced per unit of time, and the aggregate of all purchases (or sales), for consumption or investment, per unit of time. Each of these terms, however, is not an actual quantity of money existing at a moment of time, but a rate at which money is accruing. These rates must all in the long run be equal. But the process of production, culminating in sales, and the process of receiving an income, culminating in purchases, both occupy time. During the period occupied by the manufacture of a commodity the national income, of which its cost of production is part, may increase and diminish once and again. It still remains true that all the actual rates of income at a particular moment, if added together, make the total cost at which all the commodities that are in course of production at that moment are being produced. But the cost at which a commodity "is being produced" may change while it is still in course of production. In the same way at a particular moment all commodities may be deemed to have a definite price, but the price may vary from day to day.

From the reasoning in this chapter it can be seen in what sense incomes, prices, and the cost of production of commodities, are merely the machinery of distribution. An income is a claim to receive so much money per unit of time, and money, even if it be composed of gold reckoned at its bullion value, is *quâ* money merely

that medium in which the State has decreed that debts may legally be discharged. The really essential facts about the economic condition of a country are that such and such commodities are being produced at the cost of so much labour and skill, and by means of so much capital; and that these commodities are being consumed in such and such proportions by the members of the community. The only use of the elaborate system of money and credit is to provide the necessary legal evidence of purchasing power in the hands of those who possess that power. It is because money plays this subordinate part that the quantity of money in circulation is not relevant (in any important way) to a consideration of total national wealth. This is especially obvious in the case in which all money is inconvertible paper, but it is really just as true where gold is used; for where gold is used, the nation (except for the convenience of having a stock of international money permanently available for adjustments in foreign trade) can only benefit directly from its gold by replacing it by some other medium of exchange such as paper money, that is to say, by ceasing to use the gold as money, and using it in some other way.

But the fact that money is merely machinery does not prevent it from having profound and far-reaching effects on the production and consumption of wealth. Though the quantity of money in circulation is not relevant to a consideration of total wealth, *changes* in the quantity of money in circulation react upon the industrial and commercial state of the country, and have effects of the greatest importance.

V

A MONETARY DISTURBANCE IN AN ISOLATED COMMUNITY WITH NO BANKING SYSTEM

THE first step in the examination of trade fluctuations will be to consider what will happen if the theoretical equilibrium of incomes, expenditures, money, etc., is disturbed. Let the equilibrium exist, as in the perfectly stable society described above, and let it be disturbed. First, suppose the disturbance to take the form of a sudden diminution of the stock of money. We may assume that only paper money is used, and that there is no banking system. The cause of the diminution is not here relevant, but it might be effected by the Government withdrawing, in the form of taxes, more money than usual, and permanently withholding the surplus from circulation. The effects would then be spread evenly over the whole population.

Now a certain proportion of incomes are fixed in amount and more or less permanent. Whatever may happen to increase or diminish the national stock of money, there is no immediate reason for the recipient of a fixed income to alter the "working balance" of money which he retains in his pocket or his cashbox. But the majority of incomes are either variable or at any rate precarious. The profits of manufacture, of transport, and of retail trade are variable. The wages and salaries of the majority of employees, though less variable, are precarious.

Before the withdrawal of money from circulation, every member of the community may be assumed to have adjusted his working balance of money in hand so as to fit the income he was accustomed to receive and the expenditure he was accustomed to incur. After the withdrawal, therefore, some at any rate of the members of the community, having had to pay more taxes than usual, will find that they are in danger of a shortage. In the absence (as assumed) of a banking system, it will be necessary for them to restrict expenditure for a time in order to replenish their balances.

But though any one may replenish his balance by economising, it is clear that no transfers of money from one individual to another can replenish *all* the balances, the total of which has been definitely reduced by a certain amount. A new equilibrium can only be found by a change in incomes which will make a reduced scale of balances sufficient. The next step, therefore, is to consider the effect upon variable and precarious incomes.

The restriction of expenditure by some members of the community represents a corresponding restriction of the receipts of others. Those who are engaged in the production of a particular commodity, including the labourers and their supervisors, and the capitalists and landowners who participate (so far as they participate) in the production of the necessary raw materials, in the intervening processes of manufactures up to the completion of the article, in the process of transport from the several places of manufacture to the several places at which the finished goods are offered for sale, and finally in the various services included under the head of retailing, such as advertisement, storage, selection in

accordance with the customer's directions, delivery at the customer's house, etc. etc., all these people depend for the remuneration of their services ultimately on the money paid by the consumer. The goods have no value, except such as is purely speculative, until they are actually in the consumer's hands. Any one engaged in one of the intermediate processes depends upon the people engaged in the immediately succeeding processes for his reward, and thus through a continuous chain all depend ultimately upon the money which is given to the retailer by the consumer, who is the only person whose function is not "intermediate."

The whole boot trade, including the labour, land, and capital engaged not only in manufacturing boots, but in breeding the beasts to produce the leather, and in transporting and retailing the finished boots, is dependent in the last resort for its wages, rent, and interest upon the money expended by members of the community in buying boots for their own use. The aggregate of wages, rent, and interest paid to the boot trade per diem will tend to be equal to the daily expenditure on boots, and cannot in the long run diverge from that daily expenditure.

A contraction of the money in circulation entails, as we have seen, a restriction of expenditure by members of the community. This restriction of expenditure may be assumed to extend impartially (but not necessarily equally) over the whole area of consumable commodities. For the moment (before any palpable signs of this change have appeared) each trade will be in the position of continuing its output at the old rate and incurring daily liabilities for wages, rent, and interest which can only be met if that output is disposed of at

the old price. The first symptom of changed conditions will be diminished sales by the retailers, involving a diminution in their working balances.

As less commodities are sold, the retailers will order less from the wholesale dealers, who in turn will order less from the producers. If the producers do not receive sufficient orders to employ their capital and labour at full time, they must either reduce their output, or reduce their prices, or both.

In the perfectly stable community price is permanently equal to cost of production, and the producers' choice when the price falls is therefore between reduction of output and reduction of cost of production. Cost of production is ultimately the cost of paying the incomes of the persons engaged in production, including, besides the wages of labour, the salaries of the supervising and directing staff, the interest of the capitalist, and the rent of the landlord. Of these several elements in cost of production some, such as rent, or the interest on money borrowed on the security of the business, will be fixed charges; others, such as the wages bill and the profits of the owner or of the shareholders, as the case may be, will be variable. The fixed charges cannot be reduced unless the business actually becomes insolvent, all other expedients having proved ineffective.

The first encroachment, when sales fall off, will of course be made upon profits. A business which has been paying high dividends can afford to continue its full output at a certain reduction of price without suffering actual loss. But in some cases this will not be sufficient. Those businesses which have not a sufficient margin of profit must reduce either the number or the pay of their employees. In so far as the adjustment is made

by the dismissal of hands the total output of the community will be diminished.

This process could, theoretically, be pushed so far that the proportional decrease in the number employed and in the national output would be equal to the proportional decrease in the money in circulation. In that case the old scale of incomes and prices could be maintained; but the incomes with the appropriate balances of money would be shared among a portion only of the community, upon whom would be thrown in some form or other the burden of supporting the unemployed (unless the unemployed were deported, left to starve, or otherwise disposed of).

On the other hand, if the adjustment could be made entirely by a suitable diminution of wages and salaries, accompanied by a corresponding diminution of prices, the commercial community could be placed forthwith in a new position of equilibrium, in which the output would continue unchanged, and distribution would only be modified by the apportionment of a somewhat larger share of the national product to the possessors of interest, rent, and other kinds of fixed incomes. In fact, the change in the circulating medium is merely a change in the machinery of distribution, and a change, moreover, which, once made, does not impair the effectiveness of that machinery. If the habits of the community are adapted without delay to the change, the production of wealth will continue unabated. If customary wages and customary prices resist the change, the adjustment, which is bound to come sooner or later, will only be forced upon the people by the pressure of distress.

The symptom of incomplete adjustment is the diminu-

tion of employment, either a dismissal of superfluous hands or a reduction of hours. For this there is (apart from a restoration of the national stock of money to its old level) no remedy but the reduction of money wages to the point which will enable producers to resume their former activities and dispose of the output without incurring a loss. This reduction of money wages does not involve a proportional reduction of real wages, for it is accompanied by an all-round reduction of prices. But there will, in general, be some slight reduction of real wages, representing the change in the balance of wealth as between the holders of fixed incomes and other members of the community.

The time taken in reaching the new position of equilibrium will probably depend on the willingness of employees to accept the reduced wages. It will, perhaps, be hardly evident enough to them that the acceptance of reduced wages will provide a cure for their loss of employment, but the mere presence of a body of unemployed ready to accept work on almost any terms would have a tendency to depress wages. Whether the process is long or short, the result is very much what theory would lead us to expect, a general fall in the nominal value of everything which is measured in money.

The above description deals merely with the consequences of a single abrupt change in the quantity of money in circulation, a change to which society can ultimately adapt itself in a renewed equilibrium. If the changes are gradual and continuous the community may be in a permanent condition of fluctuation without ever reaching economic equilibrium at all. If for a period the stock of money continuously diminishes,

precisely the same causes will be at work as in the period following a sudden diminution. Wages will cling to their customary rate until the stress of unemployment begins to drive them down; they will follow the downward movement of money and prices at an interval; and at last, when the movement of prices stops, there will be an accumulated weight of unemployment only to be relieved by a continuance of the movement of wages. We are not for the moment concerned with the possible *causes* of changes, continuous or otherwise, in the stock of money; but a reversal of the previous movement might take place, in the form of a gradual increase in the stock of money and in the scale of prices, before wages have fallen to the equilibrium point, and might swallow up the unemployed in a new era of increasing trade before the equilibrium point is ever reached.

So far we have considered the effect of a contraction of the currency principally on the wage-earner. Incidentally, however, we have touched upon capital.

The capitalist, as we have seen, earns interest by providing labour-saving appliances. According to economic theory he selects for his operations that opening which will enable him to save the greatest amount of labour per annum with a given initial expenditure, i.e. to earn the greatest rate of interest. At any moment there will be a particular marginal or market rate of interest such that all enterprises promising a higher yield have already been seized upon, and it has not yet been worth while to undertake any enterprise whose promised yield is lower. In the perfectly stable community, capital is renewed and replaced but never extended. There will in any year be

tion of employment, either a dismissal of superfluous hands or a reduction of hours. For this there is (apart from a restoration of the national stock of money to its old level) no remedy but the reduction of money wages to the point which will enable producers to resume their former activities and dispose of the output without incurring a loss. This reduction of money wages does not involve a proportional reduction of real wages, for it is accompanied by an all-round reduction of prices. But there will, in general, be some slight reduction of real wages, representing the change in the balance of wealth as between the holders of fixed incomes and other members of the community.

The time taken in reaching the new position of equilibrium will probably depend on the willingness of employees to accept the reduced wages. It will, perhaps, be hardly evident enough to them that the acceptance of reduced wages will provide a cure for their loss of employment, but the mere presence of a body of unemployed ready to accept work on almost any terms would have a tendency to depress wages. Whether the process is long or short, the result is very much what theory would lead us to expect, a general fall in the nominal value of everything which is measured in money.

The above description deals merely with the consequences of a single abrupt change in the quantity of money in circulation, a change to which society can ultimately adapt itself in a renewed equilibrium. If the changes are gradual and continuous the community may be in a permanent condition of fluctuation without ever reaching economic equilibrium at all. If for a period the stock of money continuously diminishes,

precisely the same causes will be at work as in the period following a sudden diminution. Wages will cling to their customary rate until the stress of unemployment begins to drive them down; they will follow the downward movement of money and prices at an interval; and at last, when the movement of prices stops, there will be an accumulated weight of unemployment only to be relieved by a continuance of the movement of wages. We are not for the moment concerned with the possible *causes* of changes, continuous or otherwise, in the stock of money; but a reversal of the previous movement might take place, in the form of a gradual increase in the stock of money and in the scale of prices, before wages have fallen to the equilibrium point, and might swallow up the unemployed in a new era of increasing trade before the equilibrium point is ever reached.

So far we have considered the effect of a contraction of the currency principally on the wage-earner. Incidentally, however, we have touched upon capital.

The capitalist, as we have seen, earns interest by providing labour-saving appliances. According to economic theory he selects for his operations that opening which will enable him to save the greatest amount of labour per annum with a given initial expenditure, i.e. to earn the greatest rate of interest. At any moment there will be a particular marginal or market rate of interest such that all enterprises promising a higher yield have already been seized upon, and it has not yet been worth while to undertake any enterprise whose promised yield is lower. In the perfectly stable community, capital is renewed and replaced but never extended. There will in any year be

a constant amount of new investment replacing an equal amount of industrial failure, and the rate of interest will be constant. If the monetary equilibrium in such a country is disturbed, the movement will end, as already described, after a greater or less interval of time, in a state of equilibrium on a new scale of incomes and prices, but with the whole system of production and distribution very nearly unchanged.

In this new condition of equilibrium the market rate of interest, depending as it does upon the physical qualities of the various labour-saving contrivances in use, will presumably be the same as before the change. But in the interval of adaptation the rate of interest will be modified.

For[1] consider any project for investment at a time when there is a general tendency for the prices of commodities to fall. If the rate of interest under stable conditions is 4 per cent, then any new equipment of fixed capital which cost £10,000 would, so long as the stable conditions continue, save labour to the value of £400 per annum. But if the prices of commodities are falling at the rate of 2 per cent per annum, then after one year the fixed capital will be worth only £9800, and the labour saved will be worth only £392 per annum. Suppose that the fall of prices is expected to continue for two years so that the total fall is expected to be 4 per cent. Then a man who invests £10,000 in this way will expect to receive £392 a year hence, and in the second and every subsequent year £384 8s. 2d.[2] He will, in

[1] The theory indicated in the following paragraphs has been clearly and fully explained by Prof. Irving Fisher in his book *The Rate of Interest*.

[2] i.e. *£392 less 2* per cent.

fact, get very little over £884 a year by way of interest on his £10,000. If, therefore, he wished to lend the £10,000 to some one else, instead of himself expending it on the provision of fixed capital, 4 per cent would be too high a rate of interest for the borrower to offer him. Competition always tends to make the rate of interest prevailing in the market equal to the actual yield expected from the use of money in business. This under the conditions assumed has fallen to £3 17s. per cent, or thereabouts, and a security yielding a fixed £4 in perpetuity would be worth nearly £104.

The foregoing applies to permanent investment. Business, however, involves a certain amount of temporary borrowing. A sum of money is borrowed for a specified period of a few months, weeks, or even days, at the end of which it is repaid. The rate of interest charged in such a transaction calculated at a rate per cent per annum would, under stable conditions, be exactly equal to the rate of interest for permanent investments. But when the prices of commodities are falling this ceases to be the case. If the rate of interest under stable conditions is 4 per cent and prices are falling at the rate of 2 per cent, then a man who borrows £100 for six months and pays interest at 4 per cent will be a loser. For not only will he pay £2 by way of interest (4 per cent for half a year), but he will have to repay the capital of £100, though the goods bought with it will have sunk in value to only £99. In fact, the transaction will have cost him £3, or 6 per cent per annum on his capital. To redress this the rate of interest offered for loans must fall to 2 per cent per annum. Accordingly the effect of the falling prices of commodities is far greater on the rate of interest for temporary loans than

on that for permanent investments. Indeed, the rate of interest on permanent investments would not drop to 2 per cent unless the fall of prices by 2 per cent per annum were expected to continue in perpetuity. The fall is expected to outlast the period of a short loan, and so the rate of interest for that period is diminished by the whole 2 per cent. The fixed capital purchased may be regarded as yielding 2 per cent per annum for the first two years, during which there is a loss through depreciation of the market value of the plant to set against the gross yield, and 4 per cent thereafter. Thus in one sense the permanent and temporary investments still yield the same rate per cent, but the rate on the former is variable and will rise to its old level some time after the period of the latter has expired.

Of course this is all a matter of abstract theory. Borrowers and lenders do not take the future purchasing power of money into consideration when they settle the rate of interest. But any useful examination of the practical bearings of this theory must be postponed to the next chapter, when the inclusion of a banking system in our hypotheses will bring our investigations into closer approximation to reality.

It may be objected that even in theory, on the assumptions made, the ordinary profits of business have already been greatly diminished or even wiped out by the loss of purchasing power and failure of demand. No doubt this is so, so far as the profits yielded by existing fixed capital are concerned. And it is also true that there will be little or no investment in new enterprises for increasing the output of commodities. The existing equipment of capital is insufficiently employed in meeting the diminished demand, and there is no use in adding

to it until the demand for commodities has revived. Under the stable conditions assumed capital is renewed and replaced, but never extended. This need not mean that there are no new enterprises at all, but that the new enterprises will only just be sufficient to replace the failures. When the contraction of the currency occurs and profits vanish, the starting of new enterprises will be interrupted and the total quantity of capital in use will diminish. But this does not mean that the provision of new capital in industry ceases altogether. For capital is primarily a means of saving labour, and so long as labour is employed at all, labour-saving contrivances will fulfil their function, whether they are used to increase output or to diminish the wages bill.

Thus low profits are associated with flagging demand in two quite distinct ways. On the one hand, the profits on existing capital are encroached upon through wages resisting the fall which the failure of demand requires. On the other, the profits on any new investment in which the *money* value of the original capital is to be maintained unimpaired are diminished. It is by the profits on *new* investments that the market rate of interest is governed. Once fixed capital has been created it can be used for no other purpose than that for which it was designed, and its sole value lies in its future yield. But while it is only projected, it may still be abandoned and the labour necessary for its creation can be applied to some other purpose. So long as this is possible the action of the investor will be guided by a comparison of the first cost with the future yield, and it is from that comparison that he arrives at a rate of interest. A transaction in which the first cost is no longer a factor will not directly affect the rate of interest. A man may

pay a capital sum for a business ready equipped with capital, but the rate of interest assumed for the purpose of the transaction will really be based on the possible yield obtainable from alternative investments. Indeed, probably the seller intends to lay out the purchase price in one of these alternative investments. According to theory, then, the prevailing rate of interest should be the rate which existed before the disturbance, as modified by the falling prices of commodities.

To complete the survey of the consequences of a contraction of the currency it is necessary to refer to the question of how much money will be available for investment. In other words, what will be the effect on saving? At the beginning there is a general depletion of cash balances. It must be remembered that the savings applied to investment are usually surpluses periodically taken out of growing cash balances. These surpluses will for the moment be less than they would otherwise have been. In the case of a person with a fixed income the rate at which the cash balance grows will be the same as before the contraction, and he will soon begin to accumulate savings at his usual rate. A person with a variable income will find his income permanently diminished, and he will take time to adapt his habits to his changed circumstances. If he thought it worth while to save before, however, he will probably think it worth while to save still. As prices fall and profits are restored he will again find himself in a position to accumulate a surplus on his cash balance. But in the interval his savings will have been continued at a much diminished rate, if not altogether suspended, or he may even have drawn upon his accumulated wealth to meet his trade losses.

Employees will fall into two classes, those who remain in employment and who, as retail prices fall more quickly than wages and salaries, may even find that their cash balances grow more quickly than before, and those who, falling out of employment for a longer or a shorter time, are compelled to draw upon past savings or to run into debt. The net result is that savings are perceptibly less than in normal times.

The effects of a sudden expansion of the circulating medium may be investigated in precisely the same manner as those of a sudden contraction. People find themselves one day with more money in hand than they expected. Each proceeds to spend his surplus, some using it to meet wants and desires which must otherwise have remained unsatisfied, others investing it or using it to increase their stock of permanent property. In any case the money is applied to the purchase of commodities or services, and the surplus is merely transferred from the buyer to the seller. So long as the scale of incomes remains unchanged, commercial equilibrium is disturbed; whoever possesses a share of the surplus proceeds at once to get rid of it. Thus the number of purchases per day is above the normal. The stocks of the retailers begin to be depleted. The retailers give increased orders to the producers, who in turn take what measures they can to increase their output. If economic conditions have hitherto been stable, and if the rate of wages has been in harmony with market conditions, there will be no large reserve of unemployed labour to draw upon for this purpose. But there will presumably be efficient men temporarily unemployed between one job and the next, and inefficient men chronically underemployed, besides veterans who are too old to continue

in work, and youths who are hardly old enough to begin. There will thus in any case be a reserve of a sort, which can be drawn upon by any employer who is willing to take special pains to seek for it, or who can afford to pay wages for labour which is not fully effective. The sudden acceleration of purchases will make it worth an employer's while to take these steps. It will also be possible for him, at any rate as a temporary expedient, to set his men to work overtime. But on the assumptions we have made, excluding as they do the case where a period of expansion immediately succeeds a period of contraction and inherits therefrom a burden of unemployment, the possible extension of the productive capacity of the community would not be very great. The retailers being unable to obtain the execution of their orders for new goods without a considerable and increasing delay, could only protect their stocks from depletion by raising retail prices, and at the same time they would be prepared to pay increased wholesale prices to the producers. When the rise of retail prices has so far checked the increase in demand that the producers can meet it, a state of temporary equilibrium will have been reached. Incomes, so far as they are variable, will have been increased by the increased profits of business, and the corresponding increase in cash balances will have used up the expanded currency. But there is, so far, nothing in all this process to affect the remuneration of labour, except the employment of the few additional hands who are obtainable.

In the normal condition of a stable society, a certain number of businesses would always be failing, and new businesses would be filling their places. At a period of expansion, however, many, if not all, of the businesses

which would otherwise be failing are enabled to earn some profits and to keep their heads above water.

The new businesses will not find the usual supply of hands cast adrift by the failures, and they will have to compete with the existing businesses to provide themselves with labour. Here is an influence tending to increase the rate of wages. So long as money wages remain at their old level, whoever has the privilege of employing labour receives an abnormal rate of profit, above the actual value of his own services and the labour-saving virtues of his capital and land. While this continues he is in the position of getting something for nothing out of his employees, and it will be to the interest of his rivals in business to entice away his men by offering them a little more. As a matter of fact, it is not always possible to induce a workman to leave his employment merely by offering him a higher wage, and therefore it may take a considerable time for this influence in the direction of higher wages to take effect. But the influence exists, and, until it is worked out, economic equilibrium will not be restored.

It is necessary to consider what, in the meanwhile, is happening to the profits of capital. The increase in the amount of money in hand causes, as has been seen, an increase in the amount of money spent on commodities in a given period of time, and in particular causes an increase in the amount spent on the provision of capital or, in other words, invested.

But an increase in the amount of money to be spent in investment does not necessarily of itself affect the rate of interest. The amount annually invested in any community represents a very modest proportion indeed of the total capital already existing, and the effect of

one year's investments, be they great or small, in depressing the rate of interest is very slight. The rate of interest will measure the actual return which may reasonably be anticipated from the most favourable investments still remaining open; the investors, however much money they may wish to invest, need not accept less; however little, cannot exact more.

Now, as just explained, to any one engaged in business the interval between the first inflation of the currency and the final adaptation of the rate of wages is exceptionally profitable. The income account for that period will value the receipts at the enhanced prices then prevailing, while among the disbursements, though the cost of materials will have risen, the cost of labour will be initially low and will only rise gradually.

But this extra profit accrues to the owner of a business not in his capacity as a capitalist, but in his capacity as an employer of labour. It is a consequence of the willingness of his men to continue working at a wage which, through the fall in the value of money, has become less than the economic price of their labour. Probably it is not open to a man who is starting a new enterprise to get this extra profit, or at any rate to get the whole of it; for he will find difficulties in obtaining a supply of labour, all the regular workmen being already employed in the existing enterprises.

But though the abnormal profits due to the prices of commodities outstripping that of labour will have but little effect on new investments, the market rate of interest for short loans will be subject to influences similar in kind and contrary in effect to those which lower the rate during a period of depression.

A man who has borrowed, say, £10,000 for the purpose

of increasing or improving the plant of his business will find, when the time comes for repaying that amount, that the additional plant which he has set up is worth more than £10,000. Suppose, for instance, that the money is borrowed for six months during which prices appreciate 1 per cent, and that, if prices were steady, he would have found it worth while to borrow at 4 per cent per annum, or £200 for the six months. Then in consequence of the rise of prices his plant will be worth £10,100 at the end of the six months and he will have obtained profits in addition sufficient to meet the half-year's interest of £200. He can therefore afford to pay £300 on account of interest, or 6 per cent per annum.

And here, as before, the effect on the rate of interest for permanent investments is relatively small. If the rate of interest is expected to be raised for two years to come from a normal rate of 4 to 6 per cent by the force of rising prices, a perpetual annuity of £4 will be worth only about £96, representing a yield of about £4 3s. per cent.

The outcome of this chapter is that we have followed out to its consequences an arbitrary discontinuous change in the quantity of money in an economic organisation which has been assumed to be in certain ways arbitrarily simplified. The consequences revealed correspond remarkably with the well-known characteristics of actual trade fluctuations. On the one hand, a contraction of the currency has been shown to occasion the slackening of demand for all classes of commodities, the fall of prices, the lack of employment, the shrinkage of profits, and the low rate of interest which are the concomitants of a trade depression. On the other hand, an increase of the currency has been shown to lead to a

stimulation of demand, a rise of prices, a high demand for labour, inflated profits, and a high rate of interest, all of which are the symptoms of active trade. Our assumptions are too narrow and artificial, however, for us to draw any useful conclusions as yet, and in the next chapter we shall take a further step towards giving reality to the argument.

VI

A MONETARY DISTURBANCE IN AN ISOLATED COMMUNITY WITH A BANKING SYSTEM

HITHERTO we have considered the problem of fluctuations in a highly abstract and artificial community—one in which there are no banks and no foreign trade. In order to bring the theory adopted into line with actual conditions it is necessary to examine the effect of these two complications in modifying our conclusions.

It will be convenient, first, to deal with the banking system, and for the present still to ignore all international influences. The part played by a banking system in relation to the working balances of money held by the individual members of the community has been briefly explained above. The bank has received various sums from its depositors and is permanently under the obligation of repaying those sums on demand. That obligation may be represented either by a bank-note for the sum deposited, or by an account between the depositor and the bank, conferring upon the depositor the right of drawing cheques, or, in other words, of instructing the bank to pay money either to himself or to some third person.

For the present we will assume, for the sake of simplicity, that the banker's obligations are represented by deposits and not by notes. To be in a position to discharge its liabilities the bank need not

retain in the form of legal tender currency all the money which it has received. Provided a portion is retained sufficient to meet all reasonably probable demands for cash, the remainder can be either invested, or as is more usually done, lent for a moderate and definite period, which may be a few days or several months. We are not here considering the sudden creation of a banking system in a country where there has hitherto been none, and we need not therefore imagine a banker tying up judicious proportions of his gold in a bag and setting out to look for a borrower. We may assume a complete banking system in full working order, with a nicely adjusted system of reserves, based on long and carefully sifted experience. In such a banking system there is no necessary connexion between the total of the deposits and the amount of coin which has been paid to the banks. A banker may at any time grant a customer a loan by simply adding to the balance standing to the customer's credit in the books of the bank. No cash passes, but the customer acquires the right, during the currency of the loan, to draw cheques on the bank up to the amount lent. When the period of the loan expires, if the customer has a large enough balance to his credit, the loan can be repaid without any cash being employed, the amount of the loan being simply deducted from the balance. So long as the loan is outstanding it represents a clear addition to the available stock of "money," in the sense of purchasing power. It is "money" in this sense which will play, in a community possessing banks, the same part as money in the stricter sense of legal tender currency would play in the fictitious bankless community whose commercial conditions we have previously been considering. This is the most

distinctive feature of the banking system, that between the stock of legal tender currency and the trading community there is interposed an intermediary, the banker, who can, if he wishes, create money out of nothing. We have now to find out how this functionary uses his power and under what limitations he works. Something has already been said of the contingencies for which he must provide. Whenever he grants a loan and thereby creates money, he must expect a certain portion of this money to be applied, sooner or later, to purposes for which legal tender currency is necessary. Sums will be drawn out from time to time to be spent either in wages or in small purchases, and the currency so applied will take a little time to find its way back to the banks. Large purchases will be paid for by cheque, involving a mere transfer of credit from one banking account to another, but the recipient of the cheque may wish to apply it to the payment of wages, etc. Thus the principal limitation upon the banker's freedom to create money is that he must have a reserve to meet the fresh demands for cash to which the creation of new money may lead.

He will as a rule, at any time, have in hand a sufficient balance of legal tender currency to support his outstanding liabilities. If his customers diminish this balance by drawing out more cash than they pay in, he will find himself with less than a sufficient balance, and he will endeavour to diminish correspondingly his outstanding liabilities; that is to say, he will be more reluctant to grant new loans or to renew existing loans when they fall due. If, on the other hand, his cash balance increases, he will be in a position to increase his loans correspondingly.

In trade a seller encourages or discourages buyers by lowering or raising his prices. So a banker encourages or discourages borrowers by lowering or raising the rate of interest. If he raises the rate of interest, some intending borrowers will find the profits which they expect to realise from using the borrowed money insufficient to pay the interest, and it will no longer be profitable to them to borrow. If he lowers the rate of interest, some enterprises which would have involved a net loss or an insufficient profit at the old rate will become profitable.

It is clear that the interdependence of the rate of interest and the total amount of credit money in existence necessitates a complete reconsideration of the effects of a change in the stock of legal tender money. For simplicity we will set out as before by studying the effects of the arbitrary withdrawal from circulation of a portion of the currency, and we will suppose this to occur in a community the commercial and industrial conditions of which have hitherto been absolutely stable. The currency may be assumed, as before, to be inconvertible paper or token coinage, so that there is no free and automatic supply of fresh currency to be drawn upon when a portion is withdrawn.

The first effect of the contraction of the cur. ncy is that the working balance of cash in the hands of individual members of the community will be diminished. The precise proportion in which this diminution is shared between bankers and other people does not matter, for those who have banking accounts will quickly draw out enough cash to restore their working balances. As soon as this process is completed we have two effects; first, that the greater part, indeed practi-

cally the whole, of the currency withdrawn comes out of the banks' reserves, and secondly, that the total amount of purchasing power in the community (i.e. currency in circulation *plus* bank balances) is diminished by the amount of currency withdrawn. One consequence of the existence of a banking system is that a given diminution in the stock of currency produces at this stage much less than a proportional diminution in the total of purchasing power. For example, if the total of purchasing power be £1,000,000,000 and the total of currency in circulation and in reserve £250,000,000, a 10 per cent reduction of the currency will initially involve only a 2½ per cent reduction in purchasing power; the currency will become £225,000,000 and the purchasing power £975,000,000. If this could continue as a permanent condition, the extent of the trade depression and all other fluctuations would be very much diminished, but, of course, this result is only attained by a depletion of the banks' reserves below the level demanded by their liabilities. This the bankers cannot acquiesce in, and they will proceed to restore their reserves by discouraging borrowers, and in particular by raising the rates of interest which they charge for loans. In a stable community there will, of course, be a stable market rate of interest, but the mere diminution of purchasing power will of itself, in the manner previously explained, tend slightly to lower the market rate. For this is one of the concomitant effects of a trade depression, and the diminution of purchasing power, so far as it goes, will begin to produce a depression even before the supply of credit money has been affected. But until the bankers interfere, the depression is relatively small and

probably works slowly. The bankers' action is the first important development. The bankers raise the rate of interest in order to restore their reserves. The actual effects of this step require to be considered in some detail. For this purpose a somewhat more detailed investigation of the manner in which business is financed is necessary.

The business of production is carried on from day to day, and the expenses accrue continuously. The business of retailing is likewise carried on from day to day, and the receipts accrue continuously. Between these two processes, however, there ordinarily intervene the stages of transportation, wholesale dealing, etc., in which the goods can only be economically dealt with in large quantities. As we have already seen, the financing of business consists primarily in providing the necessary working balances of money to enable these successive processes to be conveniently dovetailed together, and the greater portion of a banker's loans is composed of advances for this purpose. He advances money to the producer for the payment of wages in anticipation of the money which will be received from the wholesale dealer for the finished product, and which will enable the producer to repay all the advances in a single sum. He advances money to the retailer to buy a consignment of goods from the wholesale dealer, and receives repayment perhaps in instalments, more or less as the goods come to be disposed of to customers. The varying circumstances of different kinds of business give rise, of course, to corresponding varieties in their financial needs, but fundamentally the function of the banker as a lender is to enable his customers to avoid accumulating disproportionately large balances for

some time before large disbursements or after large receipts.

The financial needs of any given business will be greater or less according as its output grows greater or less. If a man receives a larger order than usual he will have to make correspondingly larger payments for raw materials, wages, etc., in the interval before the goods are delivered, and will want to borrow proportionately more from his banker. Conversely, if he has less work on hand than usual he will ask less accommodation from his banker.

We are now supposing that the banker wishes to discourage borrowers, and for that purpose raises the rate of interest. It may be pointed out that, within limits, a banker can restrict loans directly by refusing to lend at all for the more speculative enterprises submitted to him, but in practice such action is hardly applicable except to new departures. If a customer established in business presses for a loan to carry on operations on the same scale as before, the banker would not ordinarily refuse. Thus, as against borrowers in legitimate business, the banker's weapon is the rate of interest. He will lend as readily as before to customers of good credit, but will make a higher charge for the money lent.

What precise effect will this rise in the rate of interest have on the borrowers? The two principal classes of borrowers are the producers and the dealers. The producers will, of course, find the cost of production of commodities slightly increased. A manufacturer who receives an order from a wholesale dealer will quote a slightly higher price in order to cover this extra cost. If this rise in wholesale prices is reflected in retail prices

there will be some slackening of demand, since the national purchasing power remains unchanged. But, in general, changes in the rate of interest such as we are considering are too small to affect retail prices immediately. The dealers would probably, in the first instance, pay the increased price to the producers without disturbing retail prices at all.

But the dealers themselves will be influenced by the rate of interest. One of the special functions of a dealer is to keep a stock or "working balance" of the goods in which he deals. This is necessary to enable him to meet the varied needs of his customers without delay. Now a dealer borrows money to buy goods, and repays the money as the goods are sold. Consequently when his stocks are large his indebtedness to his banker will be correspondingly large. The extent of the stocks which he sees fit to keep will be based on experience, but can, of course, be varied within fairly wide limits without much risk of inconvenience. When the rate of interest goes up he will be anxious to reduce his indebtedness, so far as he can, without incurring serious inconvenience. He can reduce his indebtedness if he can reduce his stocks of goods, and he can reduce his stocks of goods by merely delaying replenishment when they are sold. But the orders received by manufacturers come from the dealers who want to replenish their stocks. Consequently the manufacturers will at once find that they are receiving fewer and smaller orders. The money which the dealers would otherwise have been using to pay the manufacturers for goods, they are using to extinguish their indebtedness to their bankers. The effect, from the point of view of the manufacturer, is very nearly the same as that which was shown in the

last chapter to ensue upon a contraction of the currency in a country without banks. That is to say, he experiences a slackening of demand, and in order to relieve the resulting restriction of output he lowers prices so far as the existing expenses of production will permit. This lowering of prices will enable the dealers to lower retail prices, a measure which would ordinarily stimulate demand. But in the meanwhile the reduction of stocks by the dealers and the restriction of output by the producers will have been accompanied by a diminution of the indebtedness of both producers and dealers to the banks, and this diminution of the bankers' assets will have been accompanied by a diminution in their liabilities, i.e. in the supply of credit money. The balances of money in the hands of the public are therefore decreasing, and the superstructure of incomes erected thereon is simultaneously shrinking.

The result is that as fast as the dealers reduce their stocks at one end by retarding the process of replenishment, they find that their stocks accumulate at the other end in consequence of a flagging of the demand from the consumer. Their stocks, therefore, are on the whole depleted little, if at all, but there is a continuous decline of both wholesale and retail prices of commodities, and this decline of prices, involving a fall in the money value of a given stock of goods, helps to maintain the decrease of indebtedness, and therefore of credit money.

And other tendencies will be contributing towards the same result. Any one who intends to undertake any industrial or commercial enterprise, involving, as such enterprises almost invariably do, the borrowing of money, will be inclined to postpone the commencement

of operations until money can be borrowed on more favourable terms. Extensions, renewals, or even repairs of plant can be postponed for a few weeks or a few months. Company promoters will wait till money is easier before they launch their ventures. In fact, every one will be unwilling to borrow at 6 per cent, if he can wait without inconvenience till he can borrow at 3. And, of course, a high rate of interest imposed for the express purpose of restoring the bankers' reserves will necessarily be a temporary measure. But all this means a curtailment of expenditure. A curtailment of one man's expenditure means a curtailment of another man's receipts, and so there arises a still further restriction of output. The process differs from that described in the last chapter chiefly in being more gradual. The diminution in the stock of money, instead of occurring suddenly, is caused progressively by the action of the trading world under the influence of the high rate of interest. It should be observed, however, that the slackening of the dealers' orders to manufacturers is caused in the first instance not by the diminution of purchasing power, but directly by the high rate of interest, which discourages the accumulation of stocks.

The high rate of interest will continue until the bankers are satisfied that their liabilities in the form of credit money (i.e. to pay cash on demand) are no longer excessive in proportion to their reserves of cash. When this stage has been reached the rate of interest can be reduced again. But there is still much to be gone through before the normal progress of business can be resumed. Throughout the period of high interest there has been a progressive restriction of output and fall of

prices. The same pressure of distress that we found to operate in the case dealt with in the last chapter will have been at work. The working classes will have been under-employed and there will be a tendency towards the fall of wages. But this tendency will presumably not have had its full effect. Production, and therefore employment, will still be below the normal. In the succeeding stages, however, there will be no further reduction in the supply of money. The bankers have restored their reserves and are satisfied. The circumstances, therefore, resemble those which arise in the corresponding stages in a community without banks. The aggregate of purchasing power is on the reduced scale corresponding to the reduced stock of money; the productive resources of the community will not be fully employed until the level of prices is reduced in the same proportion; prices cannot be reduced until the cost of production is sufficiently reduced; and the cost of production can only be reduced as wages are reduced. Wages, therefore, are the key to the situation. The banks have only to see to it that their loans are kept at a constant level through the variations of output, of stocks, and of prices which will ensue. The demand for loans will not vary greatly, since output and prices will be moving in contrary directions. Practically the banks will only have to see to it that the rate of interest charged coincides as closely as may be with the earning power of money in business.

A new complication is introduced, however, into the theory of the rate of interest on short loans by the bankers' manipulations, and some further examination is necessary to make the subject clear.

In the absence of a banking system we found that two

distinct elements had to be taken into consideration in calculating the rate of interest. First, there was the rate which represented the actual labour-saving value of capital at the level of capitalisation reached by industry. This ratio of labour saved per annum to labour expended on first cost is a physical property of the capital actually in use, and under perfectly stable monetary conditions is equal to the market rate of interest. It may be conveniently termed the "natural rate." But, secondly, where monetary conditions are not stable, the market rate diverges from the natural rate according to the tendency of prices. When prices are rising the market rate is higher, and when falling lower, than the natural rate, and this divergence is due to the fact that the actual profits of business show under those conditions corresponding movements.

And now, thirdly, we find that where a banking system is in operation the market rate does not even coincide with this second rate of interest, which, as it represents the true profits of business prevailing for the time being, may be called the "profit rate." The market rate is in fact the bankers' rate, and is greater or less than the profit rate, according as the bankers wish to discourage or encourage borrowing. This theory is somewhat complicated, and we have yet to face the problem, postponed from the last chapter, of how far a theory into which so abstract a concept as the purchasing power of money enters can give a true account of the actions of practical men. We have just shown that it is the *dealers* in goods, rather than the producers, who are influenced by the bankers' manipulations of the rate of interest. And this is so because the dealers are holders of stocks of goods, the cost of holding

which is directly and seriously affected by the rate of interest. But the cost of holding stocks of goods is affected just as directly and seriously by changes of price. If prices are falling a dealer will want to hasten his sales and delay his purchases; if prices are rising he will want to delay his sales and hasten his purchases. In the former case he will decrease, in the latter he will increase his stocks. In the former so high a rate of interest will not be needed to induce him to curtail his borrowing as in the latter. In fact, if the cost of holding £10,000 worth of goods for six months is £200 it does not matter to the dealer whether this is made up of £100 interest at 2 per cent *plus* £100 on account of a fall of value from £10,000 to £9900, or whether it is made up of £300 interest at 6 per cent *less* £100 on account of a rise in value from £10,000 to £10,100. Consequently, for the banker's purposes, a "high" rate of interest is one which is above the profit rate, and a "low" rate of interest is one which is below the profit rate, and it is only when the rate of interest is equal to the profit rate that there is no tendency towards either an increase or decrease in temporary borrowing. In any of the three cases the rate of interest may be either above or below the natural rate. If the natural rate is 4 per cent and the profit rate in consequence of falling prices is only 2 per cent, a market rate of 3 per cent is "high," and will result in a curtailment of borrowing. If prices are rising and the profit rate is 6 per cent, a market rate of 5 per cent is "low," and will be compatible with an increased borrowing.

In the case we are now considering we assumed the disturbance to be a departure from perfectly stable conditions, in which the market rate of interest would

be identical with the "natural" rate. On the contraction of the currency occurring the bankers raised the market rate above the natural rate. But at the same time the fall of prices began, and there must consequently be a fall of the profit rate below the natural rate. As we now see, the market rate may actually fall below the natural rate, and so long as it remains above the profit rate it will still be a "high" rate of interest.

When the restoration of the bank reserves is completed the market rate will drop down to equality with the profit rate, and they will remain equal to one another and below the natural rate until the fall of prices has gone far enough to re-establish equilibrium.

The restoration of the bank reserves is a process which calls for a little explanation. If, to return to the numerical illustration used above, the total stock of legal tender currency is £250,000,000 and the total of bankers' loans is £750,000,000, and if the former is reduced suddenly by 10 per cent, i.e. to £225,000,000, the total purchasing power in the community will at first be £975,000,000. If of the £250,000,000 £100,000,000 was required for general circulation and £150,000,000 for bank reserves, then, with a total purchasing power 2½ per cent less, £97,500,000 will be required for general circulation, leaving a reserve of only £127,500,000 to support the bankers' loans of £750,000,000. The bankers must have £150,000,000 to justify that amount of loans; or they would be content with £127,500,000 if their loans were reduced to £637,500,000.

They raise the rate of interest, with the result that the total amount of loans outstanding is gradually reduced.

But this process results in less money being required for general circulation, so that the reserves at the same time show signs of increasing. For example, by the time the outstanding loans have been reduced to £700,000,000, and the total purchasing power to £925,000,000, the currency required for general circulation will be only £92,500,000 and the reserves will have risen to £132,500,000. Equilibrium will be finally restored when the loans have reached £675,000,000, the circulation £90,000,000, and the reserves £135,000,000. Thus the effect of the high rate of interest is both to reduce the outstanding loans and to increase the reserve.[1]

The problem of an inflation of the currency is affected by the existence of a banking system in somewhat the same way as that of a contraction. The immediate effect of an abrupt addition to the stock of money will be to raise the bank reserves above their previous level by, practically, the amount of money added. This, as constituting an addition to the total amount of purchasing power, will start an acceleration of purchases and an expansion of profits, but these phenomena will be on a restricted scale so long as the amount of bankers' loans (which constitute the greater part of the available purchasing power) remains unchanged.

The bankers, however, are no more willing than other people to keep larger stocks of cash than prudence requires. They will therefore be readier than before to grant loans, and will continue to be so until the

[1] In these figures it has been assumed for the purposes of illustration that the cash in circulation necessarily bears a fixed proportion to the aggregate of credit money. At a later stage we shall find that in practice this is not the case, and that the failure of the cash in circulation to vary with the aggregate of credit money is of great importance in the theory of fluctuations.

amount of outstanding loans has so increased that their reserves are no longer unnecessarily great. The proper procedure for this purpose would be to lower the rate of interest. But the profits of trade have already been stimulated, and the demand for loans at the old rate, which represented the old profits, will therefore in any case be greater. Even if the bankers continue to ask the same rates for loans as before, the aggregate amount of loans will grow steadily. Moreover, every day that an addition is made to the aggregate amount of bankers' loans, that addition is being made to the aggregate amount of the community's purchasing power, and is thus contributing to intensify the expansion of trade and to raise the profit rate of interest. There is no reason why the bankers should raise their rates up to the profit rate until the outstanding loans have so far expanded that the reserve of legal tender currency remaining in their hands is no longer more than sufficient. One of the most important features of a period of expansion, in contrast with one of contraction, is that the action of every one concerned is much less fettered in the former than in the latter. During a depression bankers are driven to exact higher rates for loans by the visible melting away of their reserves, manufacturers are driven to sacrifice their profits and turn their men adrift by a sheer inability to dispose of their goods, workmen are driven by stress of unemployment to accept lower wages. But when trade is expanding a banker can take advantage of the rising rate of interest or of the more rapid extension of his loans at the existing rate of interest as he chooses; the workman may not find out for a long time that the market will, if pressed, yield him employment at higher

money wages; and the trader is glad enough to sit still and accept the high profits which fortune has given him. In general, as the aggregate of bankers' loans gets within sight of the limit set by the available reserve, the bankers will begin to consider what steps they ought to take to prevent that limit being passed, and they will see to it that the rate of interest on loans is fixed at or near the profit rate.

As in the case of a depression the adjustment of wages may be fast or slow, but cannot in any case be completed until after the extension of the aggregate of bankers' loans is completed. Until the adjustment of wages is completed the profit rate of interest (and therefore also the market rate) will be above the natural rate.

Again, as in the case of a depression, the reserve will not remain constant while the amount of bankers' loans is being adjusted. If initially the amount of legal tender currency is £250,000,000, of which £100,000,000 is in circulation and £150,000,000 in the bank reserves, and the amount of bankers' loans is £750,000,000, and if the amount of legal tender currency is abruptly increased to £275,000,000, representing an increase of 10 per cent, then the amount of purchasing power will at first be increased from £1,000,000,000 to £1,025,000,000, an increase of 2½ per cent only. The amount required for general circulation should increase in the same proportion to £102,500,000, leaving £172,500,000 as a reserve to support loans to the amount of £750,000,000. As the loans grow the amount of currency demanded for general circulation will increase and the reserve will be diminished. Thus, when the outstanding loans have reached £800,000,000 the amount of purchasing power

will be £1,075,000,000 and the currency in circulation will be £107,500,000, so that the reserve will be only £107,500,000. Finally equilibrium will be reached when the loans are £825,000,000, the circulation £110,000,000, and the reserve £165,000,000.[1]

[1] See footnote on p. 69.

VII

ORIGINATION OF MONETARY DISTURBANCES IN AN ISOLATED COMMUNITY

In the last two chapters we have postulated a perfectly arbitrary change in the quantity of legal tender currency in circulation. However closely the consequences traced from such an arbitrary change may correspond with the phenomena we have set out to explain, we have accomplished nothing till we have shown that causes which will lead to those consequences actually occur. With the general problem of how trade fluctuations are generated we cannot cope satisfactorily till we have extended our field of inquiry to include an international system with the multifarious economic institutions which are to be found in the actual world.

At the present stage, however, it is already possible to make a preliminary survey of the causes of fluctuations with the advantage of an artificial simplification of the problem. And at the outset it must be recognised that arbitrary changes in the quantity of legal tender currency in circulation cannot be of much practical importance. Such changes rarely occur. All the great commercial countries of the world use gold currencies, and in a gold currency arbitrary changes cannot occur at all. Gradual changes in the supply of gold do occur, but, though they are of considerable importance in the theory of trade fluctuations, as will be shown in a subse-

quent chapter, they are not sudden enough to produce the effects elucidated in the preceding chapters.

But what we are looking for is the origination of changes not necessarily in the quantity of legal tender currency, but in the quantity of purchasing power, which is based on the quantity of credit money. A change in the quantity of credit money will serve our purpose even if it is not based on a corresponding change in the quantity of legal tender currency. For example, if the bankers suddenly came to the conclusion that the proportion of reserves to liabilities previously maintained was too low, and decided to increase it, this would necessitate a reduction in deposits exactly similar to the reduction which in the last chapter we supposed them to make in consequence of a reduction in the actual stock of legal tender currency. Or there might be casual variations in their reserves. These reserves simply consist of that portion of the existing supply of cash which happens for the moment not to be in the pockets, tills, cashboxes, etc., of the public. The amount of money which any individual carries about with him at any time is largely a matter of chance, and consequently there may very well be variations in the cash in circulation and therefore contrary variations in the reserves, which are really of the nature of casual fluctuations, or at any rate are not attributable to any cause which could come within the bankers' cognisance.

And here we must take note of two very important economic laws. First of all, when the bankers have thus disturbed the course of trade owing to their failure to diagnose correctly a casual increase in their reserves, the disturbance is always liable to be exaggerated in

the following manner. We have already remarked that when the bankers are extending their loans, there is theoretically a simultaneous tendency towards a diminution of their reserves, for the increase in the aggregate of purchasing power demands a proportional increase in the currency in circulation. But in practice the increase in the circulation (and the decrease in the reserves) will probably lag behind the increase in purchasing power. The additional loans are placed by the bankers to the credit of the borrowers, who intend presumably to employ the money in their business. As soon as the money begins to be used, cash begins to be drawn out against this credit. But cash is required mainly for the payment of wages, and the increased profits of trade are not at first accompanied by a proportional increase of wages. The increase of the circulation at the expense of the reserves will therefore be a gradual process spread over the whole interval between the first extension of the bankers' loans and the final adjustment of wages. First, the improvement in employment, even before there is any increase of wages, will increase the total earnings of the working classes, and then, when wages have reached their limit, the cash in their hands will still go on accumulating for a time, before the process of investment, through savings banks or otherwise, becomes sufficiently rapid to use up their savings as they accrue. Unless the bankers are prepared for this development they will invariably find themselves bound, at the end of a period of active trade, to curtail their loans again. And in a case where they have been misled by a casual increase in their reserves into relaxing their terms for loans as if there were a permanent increase in the circulating

medium, the subsequent recovery will be complicated by the same cause. The contrary principle is also true, that when there is a contraction of trade profits fall before wages, and the banks reduce credit money more than is strictly necessary.

Secondly, it is important to observe that whenever the prevailing rate of profit deviates from the rate of interest charged on loans the discrepancy between them at once tends to be enlarged. If trade is for the moment stable and the market rate of interest is equal to the profit rate, and if we suppose that by any cause the profit rate is slightly increased, there will be an increased demand for loans at the existing market rate. But this increased demand for loans leads to an increase in the aggregate amount of purchasing power, which in turn still further increases the profit rate. This process will continue with ever accelerated force until the bankers intervene to save their reserves by raising the rate of interest up to and above the now enhanced profit rate. A parallel phenomenon occurs when the profit rate, through some chance cause, drops below the market rate; the consequent curtailment of loans and so of purchasing power leads at once to a greater and growing fall in profits, until the bankers intervene by reducing the rate of interest. It appears, therefore, that the equilibrium which the bankers have to maintain in fixing the rate of interest is essentially "unstable," in the sense that if the rate of interest deviates from its proper value by any amount, however small, the deviation will tend to grow greater and greater until steps are taken to correct it. This of itself shows that the money market must be subject to fluctuations. A flag in a steady breeze could theoretically remain in

equilibrium if it were spread out perfectly flat in the exact direction of the breeze. But it can be shown mathematically that that position is "unstable," that if the flag deviates from it to any extent, however small, it will tend to deviate further. Consequently the flag flaps.

The effect of these two principles in exaggerating any casual change in purchasing power is really the fundamental cause of fluctuations. Their operation will be dealt with more fully when we come to the general discussion of the origination of fluctuations in the world as it is, and we need not dwell further on them at present.

There are, however, other economic influences which at any rate affect even if they do not produce fluctuations. The state of trade, for example, is always held to be very intimately related with the state of credit. The tendency, indeed, is to exaggerate the importance of credit in the subject, but that it has considerable importance is not open to doubt. Credit money is composed of the obligations of bankers, and if a banker cannot meet his obligations the credit money dependent upon him is wholly or partly destroyed. Again, against his obligations the banker holds equivalent assets, together with a margin. These assets are composed chiefly of two items, legal tender currency and loans to traders. The solvency of the banker will depend largely on the reality of these assets, and the value of the loans will depend in turn on the solvency of the borrowers.

The most effective method of securing loans is by the instrumentality of bills. A dealer gives an order to a manufacturer for goods to the value of, say, £10,000, to

be delivered in four months. The manufacturer will buy the necessary raw material and employ the necessary labour to produce the goods, and in order to do this he will wish to borrow a sum of money comparable to the £10,000 which he is to receive. He draws a bill for £10,000 payable four months hence on the dealer, and the dealer by "accepting" the bill pledges his credit that the money will be forthcoming. When both the parties to the transaction have vouched for it the manufacturer can take it to his banker and get the bill "discounted," that is to say, he will receive the money shown on the face of the bill, *less* interest up to the period when the bill falls due. The whole value of the manufacturer's efforts in producing the goods depends upon there being an effective demand for them when they are completed. It is only because the dealer anticipates that this effective demand for them will be forthcoming that he gives the manufacturer the order. The dealer, in fact, is taking the responsibility of saying how £10,000 worth of the productive capacity of the country shall be employed. The manufacturer, in accepting the order, and the banker in discounting the bill, are both endorsing the opinion of the dealer. The whole transaction is based ultimately on an expectation of a future demand, which must be more or less speculative. But the banker is doubly insured against the risk. Both the dealer and the manufacturer are men of substance. If the dealer cannot dispose of the goods for £10,000, he is prepared to bear the loss himself. He expects some of his ventures to fail, and others to bring him more than he counted on. Taking the rough with the smooth he will probably make a profit. Even if now and then he finds that

over a period of time he has suffered a loss, he probably has sufficient property to enable him to meet the loss without failing to meet his obligations to the manufacturer. And if the dealer becomes insolvent there is still the manufacturer to save the banker from loss. A manufacturer usually has a considerable quantity of fixed capital which would enable him to borrow on mortgage to meet such a liability. Where bills are not used a banker may lend on the sole credit of a dealer or manufacturer, relying on the value of the business to which he lends as the ultimate security for the loan.

Now if a contraction of credit money occurs, the consequent slackening of demand and fall in the prices of commodities will lead to a widespread disappointment of dealers' expectations. At such a time the weakest dealers are likely to fail altogether. Moreover, the credit of the manufacturers is also likely to be impaired. An individual or a company in starting a manufacturing business would usually add to the capital they can provide themselves, further sums borrowed in the form of debentures secured on the business and yielding a fixed rate of interest. The debenture interest being a first charge, only such part of the value of the business as corresponds to the profits of the proprietor or shareholders is available as the secondary security for temporary loans. But when the general level of prices is falling, the value of the entire business will be falling also, while the debenture and other liabilities, being expressed in money, will remain unchanged. If the business is earning £10,000 a year of which £7500 goes in fixed charges, and if the general level of prices falls 5 per cent, the receipts will fall to £9500, but, the fixed charges remaining the same, the profits accruing to the

proprietor or shareholders will drop from £2500 to £2000, a fall of 20 per cent. Thus the amount of security which can be offered from this source to safeguard temporary loans is permanently diminished by 20 per cent, while the amount of temporary loans needed is diminished by only 5 per cent. But this is not the whole story. For during the period of falling prices, the expenses of production resist the downward tendency, and the profits are temporarily diminished and may be entirely obliterated or turned into an actual loss. A weak business cannot bear this strain, and being unable to pay its debenture interest and having no further assets on which to borrow, it will fail. If it is not reconstructed but ceases operations altogether, that will of course contribute to the general diminution of output. Its inability to meet its engagements will at the same time inflict loss on the banks. But at present we are considering credit, and credit depends on the expectation of future solvency. A business which is believed to be weak will have difficulty in borrowing, because bankers fear that it may fail. At a time of contracting trade the probability of any given business failing will be increased. At the same time the probability of any particular venture for which it may desire to borrow resulting in a loss instead of a profit will likewise be increased. Consequently at such a time credit will be impaired, but this will be the *consequence*, not the *cause* of the contracting trade.

There is nevertheless some tendency for this cause also to exaggerate a contraction which has once begun. For the mere reluctance of the banks to lend decreases the quantity of credit money, independently of the decrease occasioned by the rise in the rate of interest.

And it may be that when the banks have completed a sufficient contraction of credit money and lower the rate of interest to the level of the profit rate again, yet the amount of loans granted still continues to decrease.

At a time of expanding trade the fixed charges will become less and less burdensome on any business, and the margin available to pledge as security will increase. Bankers will be more confident of the solvency of would-be borrowers than before, and their confidence encourages them to lend more freely. Their willingness to lend increases the quantity of credit money, independently of the increase induced by the rate of interest being below the profit rate. Here, however, the tendency to lend will not last beyond the time when the banks have created as much credit money as they think reasonable. For whereas a bank will not lend to a trader whose solvency is doubtful, even if its existing liabilities are within the limit which it thinks prudent, yet it will be equally unwilling to lend to a trader of whose solvency it is satisfied if its liabilities are already up to that limit.

We may now proceed to consider the credit of the banker himself. We have already seen that the banker's estimate of the proper proportion of his reserve to his liabilities is almost entirely empirical, and that an arbitrary change in the proportion which he thinks fit to maintain between them will carry with it an increase or decrease, as the case may be, in the available amount of purchasing power in the community. If a banker really under-estimates the proper amount of reserve, and does not correct his estimate, he may find himself at a moment of strain with his reserve rapidly melting away and no prospect of the process coming to an end before

proprietor or shareholders will drop from £2500 to £2000, a fall of 20 per cent. Thus the amount of security which can be offered from this source to safeguard temporary loans is permanently diminished by 20 per cent, while the amount of temporary loans needed is diminished by only 5 per cent. But this is not the whole story. For during the period of falling prices, the expenses of production resist the downward tendency, and the profits are temporarily diminished and may be entirely obliterated or turned into an actual loss. A weak business cannot bear this strain, and being unable to pay its debenture interest and having no further assets on which to borrow, it will fail. If it is not reconstructed but ceases operations altogether, that will of course contribute to the general diminution of output. Its inability to meet its engagements will at the same time inflict loss on the banks. But at present we are considering credit, and credit depends on the expectation of future solvency. A business which is believed to be weak will have difficulty in borrowing, because bankers fear that it may fail. At a time of contracting trade the probability of any given business failing will be increased. At the same time the probability of any particular venture for which it may desire to borrow resulting in a loss instead of a profit will likewise be increased. Consequently at such a time credit will be impaired, but this will be the *consequence*, not the *cause* of the contracting trade.

There is nevertheless some tendency for this cause also to exaggerate a contraction which has once begun. For the mere reluctance of the banks to lend decreases the quantity of credit money, independently of the decrease occasioned by the rise in the rate of interest.

And it may be that when the banks have completed a sufficient contraction of credit money and lower the rate of interest to the level of the profit rate again, yet the amount of loans granted still continues to decrease.

At a time of expanding trade the fixed charges will become less and less burdensome on any business, and the margin available to pledge as security will increase. Bankers will be more confident of the solvency of would-be borrowers than before, and their confidence encourages them to lend more freely. Their willingness to lend increases the quantity of credit money, independently of the increase induced by the rate of interest being below the profit rate. Here, however, the tendency to lend will not last beyond the time when the banks have created as much credit money as they think reasonable. For whereas a bank will not lend to a trader whose solvency is doubtful, even if its existing liabilities are within the limit which it thinks prudent, yet it will be equally unwilling to lend to a trader of whose solvency it is satisfied if its liabilities are already up to that limit.

We may now proceed to consider the credit of the banker himself. We have already seen that the banker's estimate of the proper proportion of his reserve to his liabilities is almost entirely empirical, and that an arbitrary change in the proportion which he thinks fit to maintain between them will carry with it an increase or decrease, as the case may be, in the available amount of purchasing power in the community. If a banker really under-estimates the proper amount of reserve, and does not correct his estimate, he may find himself at a moment of strain with his reserve rapidly melting away and no prospect of the process coming to an end before

the reserve is exhausted. His natural remedy is to borrow from other banks; but this he can only do if they believe his position to be sound. If they will not lend, he must try to curtail his loans. But if he has been lending imprudently, he will find that on his refusing to renew loans the borrowers will in some cases become bankrupt and his money will be lost. It is just when a banker has been lending imprudently that his fellow-bankers will refuse to lend to him, and thus the same mistake cuts him off simultaneously from the two possible remedies. When a bank fails there is a cancellation of the whole amount of purchasing power represented by the loans outstanding at the moment of failure. The people who have borrowed from the defunct bank must either borrow from the surviving banks to pay the loans back as they fall due, or they must find the money by economising their expenditure. The surviving banks cannot increase the aggregate of their loans without any increase in their reserves, and they must take steps to protect their reserves by raising the rate of interest. Indeed, other banks which have been sailing rather near the wind are likely to take warning by the failure and to aim at a somewhat higher standard in the matter of reserves. In short, the aggregate of bankers' loans having been excessive in comparison with the aggregate of legal tender currency, the former aggregate is diminished as soon as a catastrophe gives practical demonstration of the necessity of such a step.

This preliminary investigation has shown at any rate that changes in the aggregate of purchasing power, such as may be the cause of fluctuations in trade, do actually occur, and it thus affords *prima facie* proof of our theory.

But before passing on to deal with the complexities of foreign trade, it will be convenient to touch upon the kinds of disturbance which may arise in a self-contained community from the conditions of production and consumption. We are only concerned with the effects of such disturbances upon the state of trade as a whole, not with the relative prosperity of the several branches of trade.

If the demand for some commodity falls off, the people engaged in the production of that commodity will of course suffer. If a sum of £10,000,000 a year is spent in hats, and if a craze suddenly develops for going bareheaded, so that the sum so spent falls to £8,000,000 a year, that means that the amount available to meet the profits, rents, interest, salaries, wages of all the people directly or indirectly engaged in supplying hats (so far as they derive their incomes from that economic function), is reduced in the proportion of £10,000,000 to £8,000,000. This reduction will make itself felt first in the sale of hats by the retailers, and so in the orders given by the retailers to the wholesale dealers and manufacturers. The manufacturers must either restrict their output or reduce their prices. They can reduce their prices by sacrificing their profits, but they cannot push the reduction appreciably further, for that would require them to cut down wages. Wages remain at their old level in all other branches of business. Indeed, other branches of business gain what the hat trade loses, for the £2,000,000 which would otherwise have been spent on hats is spent on other things, either on commodities for consumption or on the provision of new capital. The bankers will see to it that the supply of credit money is in due proportion to the supply of

cash, and that the diminished borrowings of the hat trade are made up by increased borrowings elsewhere. The effects, being widespread, will be relatively small, but such as they are they will take the form of an increase in the sales, and therefore in the prices of commodities other than hats, an increase in profits, an improvement in employment at the existing rates of wages, and a tendency for those rates to rise. Thus on the assumption that the supply of money remains unaffected, the depression of one trade, so far from tending to depress the others, tends rather to stimulate them. This will make it specially difficult for those engaged in the one trade affected to cut down wages, and therefore the principal effect of the depression will be a diminished output, throwing a portion of the employees out of work. These latter will be driven to look for other employment, usually either in unskilled trades, or in skilled trades more or less allied to their own, and of course it may be that some find themselves permanently incapable of earning a living. However, so long as the total stock of money remains unaltered the total of money incomes will be (practically) unaltered, and the industrial machine will continue to work steadily, even though there are thousands compulsorily idle and dependent upon charity or public assistance for their support. Those who, being in employment, are paying a portion of their earnings towards the maintenance of the unemployed are, of course, also suffering loss, but nevertheless the peculiar features of a general depression are not present.

In the contrary case of the growth of the demand for one commodity in comparison with the rest, there will of course be an increase of sales, an increase of output,

an increase of prices, of profits, and of wages in the trade so stimulated. There will at the same time be a very slight depression in the other trades, and there will be a tendency for more capital and more labour than before to enter the trade in which profits and wages have risen. That is to say, the output in that trade will be gradually increased, and that of the other trades slightly diminished. But here again none of the characteristics of a change in the state of trade as a whole will be present.

In fact, it may be stated broadly that as long as the stock of money remains unchanged, a change in the demand[1] for some commodities as compared with the rest does not either stimulate or depress trade as a whole.

To pass next to changes in the conditions of supply, we will consider the effects of scarcity or abundance of food or raw material. The price of any commodity tends to rise or fall as the available supply falls or rises, and as the total amount of purchasing power available per unit of time to defray the cost of production of any kind of commodity is equal to the amount of the commodity purchased per unit of time multiplied by the price, the contrary movements of supply and price compensate one another's action. If the demand is elastic the price will rise or fall *less* than in proportion to the supply, if the demand is inelastic the price will rise or fall *more* than in proportion to the supply. An inelastic demand is usually characteristic of necessaries and an elastic demand of comforts or luxuries. For

[1] The "overproduction" of a commodity is the result of a miscalculated demand, and does not differ in principle from the case of a failing demand.

example, if the price of corn rises, people will hardly reduce their consumption of bread; but if the price of umbrellas rises they will probably reduce their purchases of umbrellas very perceptibly.

The producers of a commodity for which the demand is elastic gain by an abundance and lose by a scarcity of the raw material. The producers of a commodity for which the demand is inelastic lose by an abundance and gain by a scarcity. The effect on the other trades of the community is in either case the contrary of the effect upon the trade under consideration, but, of course, except in the case of a very marked scarcity or abundance in a commodity of the first importance, this effect is likely to be inconsiderable. In the extreme case of a famine the total money expenditure on food will probably be much greater than usual, and as the aggregate money income of the community cannot increase so long as the money available to maintain the cash balances remains the same, the expenditure on all the other commodities will be diminished. This diminution of expenditure will of course involve a fall in prices and output, and there will result a loss of employment. But the enhanced receipts of those who are engaged in the supply of food will take the form of exceptional profits, and will not be accompanied by any increased demand on their part for labour. The farmers will perhaps continue to employ the same number of labourers as usual; they certainly will not require more to deal with their diminished output, even though that diminished output represents a greater total money value than the full harvest of a normal year. The unemployed in other trades will therefore remain unemployed unless the rate of wages can be reduced. This

represents a real trade depression, exhibiting all the features of a depression caused by a contraction in the supply of money, except that there is present a natural tendency to recover in the next year, or in the next year which produces a normal harvest, whether the various stages of adjustment are passed or not.

On the whole, the most remarkable feature of all these disturbances in demand or supply is that they have comparatively little effect on the state of trade. Except in the special instance of an actual famine, the fluctuations of demand or supply produce no fluctuations in trade as a whole, the depression or prosperity of one trade being compensated by the prosperity or depression of others.

VIII

A MONETARY DISTURBANCE IN AN INTERNATIONAL SYSTEM WITH INDEPENDENT PAPER CURRENCIES

WE have now completed a sufficient survey of the nature of fluctuations in a self-contained community, and it is time to take the next step towards bringing the theory into correspondence with the facts of the economic world. This next step takes us into the midst of the problems of international trade, and in order to deal with the international aspects of fluctuations, it is necessary to refer briefly to the underlying principles of the foreign exchanges.

It will again be convenient, at the outset, to simplify the problem by postulating an abstract world in which some of the actual complexities are omitted, to be introduced, one by one, at later stages. This abstract world may be assumed to be a perfectly stable economic system, composed of a number of independent countries, each of which uses an inconvertible paper currency which is not legal tender in any of the others. We will also suppose that there are no protective tariffs.

In any country situated in this hypothetical world there will presumably be a certain amount of foreign trade. Now the transference of a cargo from one country to another creates a debt due from some one in the importing country to some one in the exporting country. This debt cannot be discharged by the re-

mittance of money, because the two countries have been assumed not to use the same money. In fact, it cannot be paid at all unless there is some one in the exporting country who owes money to some one in the importing country. That the debt should remain outstanding or, in other words, that the total indebtedness of one country to the other should be permanently increased, is inconsistent with the preliminary assumption of perfect economic stability in all cases. So long as the condition of stability is maintained the indebtedness of the importing to the exporting country must be compensated by an indebtedness, accruing at an exactly equal rate, arising out of the transference of goods from the importing back to the exporting country. This statement requires qualification in two respects. First, the term "goods" must be regarded as including not only commodities, but also services. If a man in one country gives legal advice to a man in another, a debt is created exactly as if he had sent cheese instead of advice. Secondly, if one country is permanently indebted to another (a state not inconsistent with perfect stability) the borrowers will be permanently under the obligation of remitting the interest on the debts from time to time, as it falls due. In order that they may fulfil this obligation they must find in the creditor country people who need to pay money to the debtor country. Such people can only be found if there are exports from the debtor to the creditor country equal in value to the interest due, over and above any exports that are balanced by imports from the creditor to the debtor country.

We have, therefore, the principle that, so long as the condition of perfect stability is fulfilled, exports and

imports of goods and services pay for one another, and that any excess of either over the other represents the payment of a periodically accruing liability such as the interest on borrowed money.

This principle requires us to equate together the values of exports and imports reckoned in two independent currencies. It must be remembered that each currency has been assumed to be inconvertible paper, without intrinsic value, and owing its value in exchange entirely to a domestic law which makes it legal tender at home and has no validity abroad. The value of the unit of either currency will depend merely upon the amount which the Government has seen fit to issue in comparison with the national needs for currency. How, then, is the value of each unit in terms of the other determined ?

The answer is to be found in the conditions under which foreign trade is carried on. If goods are manufactured for export, the cost of production is measured in the currency of the producing country, while the producer can only draw upon the foreign dealer who imports the goods in the currency of the dealer's own country. In stable conditions the equivalent obtained by the producer in the currency of his country for the price received in the importing country must be equal to the cost of production, which, in turn, is equal to the price of similar goods in the producing country itself. Moreover, wherever the supply of any goods is partly domestic and partly foreign, the prices of the goods derived from the two sources of supply must be identical. Also, no commodities can command a price in either country greater than that of similar commodities in the other by more than the cost of transporting them

unimpaired from the latter country to the former. These conditions all arise out of the existence of economic stability based on free competition. Between them they are sufficient to determine the relative values for the purposes of international payments of the respective units of currency of the two countries concerned.

The point of equilibrium in their trade will therefore be governed by the following principles. The cost of production of a commodity in either country, calculated in terms of labour and estimated on the assumption that the country supplies the whole of its own demand, would in general differ from that in the other. Any assumed rate of exchange between the two units of currency would afford a basis of comparison in terms of money between costs of production in the two countries, and the result would be to divide the products of each country into three classes: (1) commodities of which the money cost exceeds their money cost in the other country by more than the cost of transport, (2) commodities of which the money cost differs from their money cost in the other country by less than the cost of transport, and (3) commodities of which the money cost is less than the money cost in the other country by more than the cost of transport. Commodities of the intermediate class (2) would continue to be produced by each country for itself. But commodities of class (1) would be imported, and commodities of class (3) would be exported. If, in the case of any commodity of class (1), some of the producers are so favourably circumstanced that they can produce at a cost not greater than the cost of production abroad *plus* the cost of transport, then a part of the supply

will continue to be provided at home by these producers.

Thus to any assumed rate of exchange there corresponds a determinate amount of exports and a determinate amount of imports, and, of all the possible rates of exchange, that alone will be consistent with economic stability which will lead to exact equality between exports and imports (or, if there is a net indebtedness of one country to the other, to such an excess of exports or imports as will just settle the accruing liabilities for interest). It is worthy of mention that the rate of exchange so arrived at, is entirely independent of any relation between the respective costs of production of any commodity in the two countries calculated in hours of labour and in the equivalent in hours of labour of the land, capital, and supervision employed. It may be that the industrial efficiency of one country is so far superior to that of the other that there is no single commodity produced by the second, but that the same commodity could be produced in the first and transported to the second at a less expenditure of labour and labour-equivalents. But if that is so, money wages in the more efficient country will be so much higher than the equivalent, at the prevailing rate of exchange, of money wages in the other as to preserve the equilibrium between exports and imports. For example, the superiority of Europe to India in industrial efficiency results not in a perpetual growth in the indebtedness of India to Europe, but in a great divergence between the money rates of wages. A European labourer can earn as many shillings in a day as an Indian can earn pence. Practically, it may be said that the rate of exchange equates the general level of prices of commodities in one

country to that in the other. This is of course only approximately true, since the rate of exchange is affected only by those commodities which are or might be transported between the two countries. If one of the two countries is at a disadvantage in the production of commodities which cannot be imported, or indeed in those which can only be imported at a specially heavy cost, the general level of prices, calculated fairly over all commodities, will be higher in that country than in the other. But, subject to this important qualification, the rate of exchange under stable conditions does represent that ratio between the units of currency which makes the price-levels and therefore the purchasing powers of the two units equal.

Having indicated the conditions of a stable international economic system under the limitations assumed, we will now suppose the equilibrium to be disturbed. To begin with, it will be convenient, as in Chapter V, to assume that the countries concerned have no banking systems and no credit money. Let there be two such countries, A and B, and let a contraction of the currency occur in A. The immediate effects will be those which we have already traced in Chapter V. The cash balances of the community will be depleted, and there will be a curtailment of expenditure in order to restore them. The general restriction of expenditure involves a corresponding restriction in the sales of goods and services. The retailers find that they cannot get rid of their goods as quickly as usual, and they reduce their orders to the wholesale dealers and producers. The producers can only avoid restricting their output by lowering their prices; they accordingly lower their prices so far as the existing scale of their

expenses will permit. Their expenses depend mainly on the rate of wages, and until the working population will accept lower wages there must be some restriction of output. This restriction of output represents the adaptation of business to the contracted currency by a reduction of volume instead of a reduction of money values. In the remaining stage the pressure of distress due to lack of employment drives the working class to accept lower wages. As wages fall, prices fall, output increases, and employment improves, until at last all money values have completed a fall proportional to the original diminution of the stock of money and equilibrium is restored.

But the presence of another country, B, carrying on commerce with A, necessitates a reconsideration of this story. In the stable conditions preceding the contractions of the currency in A, there will have been an exact balance of exports and imports. When the contraction occurs the exporters in B will find a diminution in the orders for goods received from dealers in A, and at the same time exporters in A will find a diminution in the domestic demand for their products. In other words, those classes of producers in either country who are trading in both countries will find their business in A diminished. They will no doubt reduce their prices, both in A and B, in order as far as possible to keep up their output, and the result will be that they will sell more in B and less in A than before. Exports from A to B will be increased, and imports from B to A will be diminished. Imports will cease to pay for exports, and a net indebtedness from B to A will be created. How, then, is this indebtedness to be discharged? It must be remembered that a creditor in

A cannot use the money of B, since both countries have been assumed to use independent inconvertible paper currencies. The actual practice of an exporter of goods to a foreign country is to draw a bill of exchange, which is documentary evidence that a sum of money is due to him in that country, and to sell this bill to a bill-broker in his own country, who will pay him for it the equivalent of the sum at the prevailing rate of exchange, less the necessary charges for discount, commission, etc. So long as exports and imports balance, the bill-brokers will find that the bills of either country on the other cancel out. But if the balance is disturbed this will no longer be so. If the exports from A increase and the imports decrease, the bill-brokers will find that in A they are paying out more money than they are receiving, while at the same time in B they will be receiving more money than they are paying out. Like other people engaged in business, bill-brokers must keep working balances of money, and the bill-brokers will find that their working balances in A are being depleted, and that their working balances in B are being inconveniently swollen. Steps must be taken to check these movements. Money cannot be sent from B to A; it would be no use simply to increase the commission charged on every transaction, for though this would diminish the total volume of bill-discounting business the divergence between payments for exports and payments for imports would still exist. The only means of restoring the bill-brokers' balances is to alter the rate of exchange. The broker in A offers less of the currency of A for a given sum payable in B; the broker in B offers more of the currency of B for a given sum payable in A. This makes the export trade from A to B less

profitable, and the import trade from B to A more profitable, and a sufficient adjustment of the rate of exchange will make the two balance again.

To the question what precise adjustment will have this effect, there is no very simple answer. An alteration in exact proportion to the fall in the prices of commodities in A will not serve the purpose. Assume such an adjustment to be made. Then if the prices of commodities in B remained unaltered, the exporters of goods from A to B would get as much B-currency for them as before, but their receipts transformed into A currency will be reduced in proportion to the rate of exchange, i.e. in the same proportion as their receipts and the receipts of other producers from consumers in A. They will thus be able to maintain their export trade undiminished, and receive as much from goods exported as from goods sold at home.

On the other hand, exporters from B to A, though the reduced prices at which they sell their goods in A are equivalent to the same amount of B-currency as the old prices, will find that the quantity of goods exported is diminished, since the demand for commodities in A, even at the reduced prices, is lessened.

Thus the export trade of A will be maintained, while its import trade will be curtailed. No doubt the assumption made above that prices in B remain unaltered is not strictly correct. The exporters in A will suffer less from the slackening of demand than those producers whose entire market is confined to A, and they will therefore be inclined to make a less drastic reduction of prices, so that the prices of their goods in B-currency will tend actually to increase. The exporters in B, unlike other producers in B, will suffer some slackening

of demand, and will presumably make some reduction of prices in B-currency in order to maintain output so far as they can. But both these tendencies only intensify the want of equilibrium between exports and imports, and it is clear that so long as the demand for commodities in A is below the normal the rate of exchange must be adjusted somewhat *more* than in proportion to the fall of prices in A. As the fall of prices continues, however, the demand for commodities in A grows, and the proportional discrepancy between the movement of prices and the movement of the rate of exchange will grow less, until at last, when the fall of prices is fully proportional to the initial diminution in the stock of money, the demand for commodities in A will have completely recovered, and the rate of exchange will again be in proportion to the purchasing powers of the two units of currency which it relates.

This theory of the adjustment of the rate of exchange is of course highly artificial and abstract. In order to bring it into relation with the facts it is necessary at once to proceed to deal with the operation of a banking system under the conditions assumed. Suppose, then, that both A and B possess banking systems, and suppose that a contraction in the amount of legal tender money occurs in A. The bankers in A will proceed to raise the rate of interest in A, in order to bring down the amount of credit money to a suitable proportion to the amount of legal tender money. There will of course be a slackening of demand, a curtailment of output, and a fall in the prices of commodities, with a tendency to produce all the consequences already described. But at the same time the increase of the rate of interest will have independent consequences equally important.

A man in B with money to spare for a temporary loan will be able to buy a bill of exchange on A, which will give him an equivalent sum in A. He can lend this sum at the high rate of interest there prevailing, and, when the loan matures, the money will be equivalent, owing to the change in the rate of exchange in the interval, to a *larger* sum in B-currency than before. The lender will thus make a profit on the exchange operations over and above the extra interest. If this opportunity is foreseen, people in B will hasten to take advantage of it; there will be a demand for bills on A, and the rate of exchange will react to this demand; the importation of goods from B to A will thus be stimulated, and A will become indebted to B. In fact, the future fall in the value of B-currency in terms of A-currency is anticipated, and the exporters of goods from B to A are enabled to undersell the producers in A, and thus to hasten that general fall of prices which is the necessary condition of equilibrium in A.

This process will continue until the requisite restriction of the volume of credit money has been accomplished. It should be remembered that the rate of interest only need be high relatively to the profit rate in A, which, under the influence of falling prices, will be less than the natural rate. As soon as the bankers are satisfied that their reserves and the amount of credit money are in due proportion, the rate of interest in A will revert to the profit rate, and the rate of exchange will then become subject to the laws which apply when there is no banking system.

During this final stage the profit rate in A will remain below the natural rate, and the market rate of interest will be equal to the profit rate. But a man in A with

money to lend cannot take advantage of the higher rate of interest prevailing in B, where the profit rate is equal to the natural rate. For if he lends his money in B he will find when the loan becomes due that the rate of exchange will have changed to his disadvantage in the interval, and the net loss on exchange will eat up the extra interest. As a matter of fact this is only approximately true, for, as we have seen, the rate of exchange does not move exactly parallel with the prices of commodities in A. In the later stages of the disturbance the fall still to take place in the rate of exchange will be less than the fall still to take place in the general level of prices, and as it is on the latter that the depression of the profit rate depends, a lender in A will gain something by lending his money in B. But probably the inducement to do this will not be strong enough to be of much account.

From the above description, which is necessarily rather complicated, it will be seen that the mutual influence of two areas with independent currency systems is on the whole not very great. Indeed, the only important consequence to either of a contraction of currency in the other, is the tendency for the first to lend money to the second in order to get the benefit of the high rate of interest. This hastens the movement towards ultimate equilibrium in the area of stringency. At the same time it would raise the rate of interest slightly in the other country. But as this rise in the rate of interest is due to an enhanced *demand* for loans, it will not have the effect of diminishing the total stock of bankers' money.

It is hardly necessary to consider in the same detail the case of an inflation of the currency. The inter-

effects (on the same assumptions as before)

correspond very closely with those which occur in the case of a contraction. If the bankers find their reserves to be above the necessary amount they relax the terms for loans; the aggregate of bankers' loans is increased; purchases are accelerated; the producers increase their output so far as possible, and prices rise. If the rate of exchange remained the same as before, exports would fall and imports would increase. The rate of exchange must therefore be adjusted. If it were adjusted in strict proportion to the rise of prices, imports would still be increased in proportion to the general increase in consumption, while exports would be unchanged. Thus, so far as the balance of exports and imports is concerned, the adjustment of the rate of exchange must be a little more than in proportion to the rise of prices. But foreigners will be tempted by the low rate of interest to borrow money, and the rate of exchange must be further adjusted to check this tendency. It will thus be pushed to a point at which there is an excess of exports just equal to the amount of the loans being advanced to foreign borrowers. When the low rate of interest has done its work it will be raised again to the profit rate (now above the natural rate owing to the rising prices); the tendency to lend money abroad will cease; the rate of exchange will revert to the point determined by the balance of exports and imports, that is, it will be altered as compared with its original value a little more than in proportion to the rise of prices which has occurred. From that point the gradual rise of wages will begin to bring back the output in the area of inflation to its normal level, and prices will rise a little further, the rate of exchange being adjusted a little *less* than in proportion to the rise of prices, until at last equilibrium

is restored, and all money values, as well as the rate of exchange, exhibit the same proportional change.

It is important to notice that as soon as the assumption of stable conditions is abandoned the rate of exchange ceases to represent the ratio of the purchasing powers of the two units of currency which it relates. A difference between the rates of interest in the two countries concerned displaces the rate of exchange from its normal position of equality with this ratio, in the same direction as if the purchasing power of the currency of the country with the higher rate of interest had been increased. Such a divergence between the rates of interest would only occur in case of some financial disturbance, and though such disturbances, great or small, are bound to be frequent, the ratio of purchasing powers may still be taken (subject to the qualification previously explained) to be the normal significance of the rate of exchange.

IX

A MONETARY DISTURBANCE IN AN INTERNATIONAL SYSTEM WITH A COMMON METALLIC MEDIUM OF EXCHANGE

THE foregoing exposition relates of course to a hypothetical world. But it is best to approach the problems of international trade at first by making the assumptions therein adopted, for inconvertible paper currencies, having no real "par" of exchange, exhibit the true character of the rate of exchange much better than metallic currencies. We have shown that the rate of exchange tends to represent simply the ratio of the purchasing power of the two units of currency, and that when this ratio is disturbed, the rate of exchange, subject to certain fluctuations, follows it.

But having elucidated this point we can now pass to the much more important case of the international effects of a fluctuation experienced in a country using a metal currency common to itself and its neighbours. Practically all the great commercial nations of the world have now adopted gold as their standard of legal tender, and this completely alters the problem.

This establishment of gold as the monetary standard means not merely the use of gold coins, but the free coinage of gold. The Government undertakes to turn into coin any quantity of gold which may be brought for the purpose, and either charges nothing or charges the bare cost of the process.

Where these conditions exist, gold bullion which can be turned into coin at any time is practically as good as gold coin. The coin in virtue of its quality of being legal tender will often command a slight premium, but this premium will not be greater than the cost of coining *plus* interest for the period occupied by the process. These arrangements amount practically to the use of the same standard of value by all the gold-using countries, just as if they had an international unit.

As it is still the effects, not the causes, of a contraction or inflation of the currency which we are investigating, we will again assume some arbitrary change in the circulation. Suppose, for instance, that in one country some step is suddenly taken which has the effect of completely withdrawing a large quantity of gold from circulation.[1]

The first effect will of course be a depletion of the bankers' reserves, and the bankers will promptly respond by raising the rate of interest. The result of raising the rate of interest is, as we have seen, to attract loans from abroad, and the borrowers by drawing bills on the lenders and getting them discounted will diminish the bill-brokers' balances in the area of stringency. The bill-brokers will defend themselves by altering the rate of exchange, but here arises the fundamental difference from the case of independent inconvertible paper currencies. For it is possible for a lender to put his gold in a box and consign it direct to the borrower without resorting to the use of bills at all, and if the rate of exchange passes a certain point it will become more

[1] It does not matter precisely what the step is. If the reader desires a concrete illustration he may suppose that the gold is melted down and made into a calf for the people to worship.

profitable to do this than for the borrower to draw a bill on the lender. The point at which the consignment of metal becomes profitable is called the "specie point." It is reached when the quantity of gold which can be obtained by discounting a bill of exchange is less than the quantity equivalent to the sum expressed on the face of the bill not only by the interest up to the date of the bill's maturity, but in addition by the whole of the charges for freight, etc., payable on the carriage of the metal.

For instance, if these charges for the remittance of gold from London to Paris, or from Paris to London, amount to ½ per cent of the sum remitted, and if the gold in £1 is equal to the gold in 25·22 francs, then when the exchange for cheques (for which there is no discount) is at about 25·09 a man in Paris can have £10,000 in gold sent to him from London, equivalent to 252,200 francs, and pay 1261 francs for freight, etc., leaving 250,989 francs in his hands, whereas if he had drawn a bill on his debtor in London he would have got 250,900 francs only. There are two specie points in the exchange between any two places. When it is profitable to send gold from London to Paris, the London exchange on Paris is said to have reached the "export specie point," and the Paris exchange on London to have reached the "import specie point." When it is profitable to send gold from Paris to London the situation is exactly reversed. On the assumption made above as to the cost of remittance the specie points would be approximately 25·09 and 25·35.

In the case, then, when a high rate of interest is attracting loans from abroad to any considerable extent the bill-brokers will quickly put down the exchange to

import specie point, and gold will flow in from abroad. This will begin at the same time to fill up the bankers' reserves at home and to deplete those abroad. The foreign bankers must in turn protect their reserves by putting up the rate of interest in their respective countries. Thus the contraction of the currency at once tends to spread itself over the whole of the gold-using world. The consequent depression is by this means alleviated in the area of stringency, but only at the cost of being extended in some degree to all the other countries.

The foreign bankers will not raise their respective rates of interest immediately, or will not raise them so high as absolutely to prevent gold being withdrawn. If they did they would soon find their outstanding loans diminished and their reserves unnecessarily enlarged. They are prepared to let some gold be withdrawn, but must so far raise the rate of interest as to ensure a simultaneous reduction in loans.

The reduction in loans will be gradual, and their proper course is to adjust the rate of interest in such a way that the reduction of loans and the withdrawals of gold shall just about keep pace. As the foreign lenders have to meet the cost of sending their gold before they can get the benefit of the high rate of interest the foreign rates of interest will be a little lower than the rate in the area of stringency, and the difference will be the greater the more distant the foreign country. We might trace each great trade route or line of communication and find the prevailing interest lower and lower, as the distance and the cost of carriage of gold grow greater and greater. If the contraction was slight and the consequent rise in the domestic rate of interest correspond-

ingly small, it might be that the exchange with the more distant foreign countries would never touch the specie point at all.

Consider, then, the case of any selected foreign country. If it is so distant and the disturbance so slight that no gold is imported from it the conditions approximate to those already examined, where independent inconvertible paper currencies are employed. The extent and anticipated duration of the rise in the rate of interest in the area of stringency are not sufficient to meet the cost of actually remitting gold. The tendency in the selected foreign country to take advantage of the rise by lending money can be confined within limits by an adjustment of the rate of exchange short of the specie point. This adjustment will induce a balance of imports from the foreign country, and the equilibrium position must be such that loans equal to the value of this balance of imports will also be made. In other words, the exchange not having reached the specie point, any sum borrowed passes in the form of goods.

If, on the other hand, the selected foreign country is near enough and the monetary disturbance great enough to cause an actual movement of gold, the rate of exchange must be forced up to the specie point. This adjustment of the rate of exchange will of itself, as in the previous instance, induce a balance of imports from the foreign country to the area of stringency, and a portion of the foreign loans will thus come in the form of goods. But over and above this balance of imported goods a greater or less amount of gold will be sent. There will be a rise in the rate of interest in the foreign country, but not so great as the rise in the rate of interest

in the area of stringency. In either case the rise in the rate of interest will have its normal effects of discouraging loans, diminishing the aggregate of purchasing power, curtailing purchases, retarding output, and reducing prices. But, other things being equal, these effects will be less marked in the foreign country since the rise in the rate of interest is there less. There will be a tendency therefore for imports into the area of stringency to be checked by the falling demand and the drop in prices, while the same causes will stimulate exports from that area to the foreign country. If independent currencies were used, this tendency would result merely in an adjustment of the rate of exchange. But as gold is used in both countries and the exchange is already at the specie point, the excess of exports from the area of stringency cannot be checked by this means and must be met by a further transfer of gold. That is to say, the effect of the discrepancy in prices in the two countries is to cause a greater portion of the foreign loans to come into the area of stringency in the form of gold instead of in the form of goods. Indeed, if the discrepancy of prices were very pronounced and the transport of gold cheap, the imports of gold might actually be greater than the total of the foreign loans.

When the bankers' reserves in the area of stringency are restored the rate of interest reverts to the profit rate. The bankers' loans in the foreign country may be supposed to have been gradually diminished in proportion to the stock of gold, the rate of interest having been adjusted to make them keep pace. There is no longer any tendency for money to be lent from the foreign country to the area of stringency, but the discrepancy of prices still exists and will cause a continuance of the

flow of gold into the area of stringency to pay for the excess of exports therefrom. In order to produce a continuance of the corresponding reduction in the bankers' loans in the foreign country the rate of interest there must continue to be something above the profit rate. On the other hand, in the area of stringency loans can be actually increased in proportion to the new gold imported, and the rate of interest there could even be reduced below the profit rate. An intelligent anticipation of this situation would lead the bankers to reduce the rate of interest to the profit rate before the restoration of their reserves is completed, and to trust to the continued influx of gold to place them finally in a sound position during this later stage. So long as the flow of gold continues the total purchasing power in the foreign country will be diminishing, and the total of purchasing power in the area of stringency will be increasing. The tendency towards an excess of exports from the latter to the former will thus be steadily losing force, until at last the difference in the prices of commodities in the two areas is so far reduced that the excess of exports is checked altogether by the rate of exchange being fixed just at the specie point. When this stage is reached the flow of gold will cease, but the rate of exchange will not react appreciably from the specie point. Equilibrium will be reached with a lower level of prices in the area of stringency than in the foreign country; just so much lower as to maintain the rate of exchange up to the specie point, but not past it.

It must be borne in mind that the rate of exchange, so long as it is *within* the specie points, represents practically the ratio between the average levels of gold prices in the two countries which it relates, just as the

rate of exchange between independent inconvertible paper currencies practically represents this ratio between the average levels of paper prices. If the exchange between London and Paris is at par (which we will take to be 25·22 francs to £1), and if the quantity of gold in France is increased by ½ per cent, then, after affairs have been adjusted, the exchange will have risen to 25·288. Prices in France will on an average be simply ½ per cent higher than before, but the English prices of French goods will be unaltered, and the French prices of English goods will have risen in the same proportion as French incomes and the French prices of French goods. It is only when the divergence of prices is so great that the corresponding adjustment of the rate of exchange would push it beyond the specie point that any gold passes. Thus, as soon as the flow of gold has depressed the prices of commodities in the selected foreign country so far that the percentage by which they exceed the prices of commodities in the area of stringency is not greater than the percentage representing the charges for the transport of a given sum of gold, the flow of gold will stop.

The principles governing the rate of exchange may be illustrated by the following mechanical example. Represent two countries by two cisterns, and their stock of legal tender money by water, so that the depth of the water in either cistern may be taken to be the general level of prices in the corresponding country. If water cannot pass from either cistern to the other any divergence of depth may be produced at will by adjusting the respective quantities of water in them. This corresponds to the case of countries with independent currencies. If, however, the water can flow

through a pipe leading from the base of one cistern to the base of the other, the depths in the two cisterns will always be identical. This does not correspond strictly to the case of gold-using countries, because gold does not flow quite freely from one to the other, and a difference of depth corresponding to the specie points must be possible. This can be represented if the pipe be supposed to contain a valve which will prevent the flow of water unless it is subject to a certain pressure, but which under that pressure from *either* side will open. When a difference of level exists great enough to cause this pressure upon the valve, water will pass through the pipe until the difference of level has been reduced to a point at which the pressure is no longer sufficient to keep the valve open. The rate of interest must be represented by some mechanical means of adjusting the pressure in either cistern, a rise in the rate being equivalent to a diminution of pressure which would tend to suck in water from the other cistern.

This mechanical example may be extended to represent any number of countries by an equal number of cisterns each of which must communicate through valves with all the others. It may be supposed that water is being poured from an external source into some of these cisterns, which will represent the gold-producing countries, and from which it will be distributed through the valves to the others. Every cistern must also be assumed subject to artificial means of altering the pressures of the water in it, representing not only adjustments of the rate of interest, but also all other changes in economic conditions which may affect the need for currency.

To return, however, to the consideration of the effects

of a contraction of the currency in a country forming part of an international gold-using system. It will be observed that, in the course of the process described above, the area of stringency becomes indebted to the selected foreign country, the new indebtedness representing the loans attracted from it during the period of high interest. These loans would be for short periods, and we cannot assume that equilibrium has been restored until we have considered what will happen when they fall due. First of all, it is at any rate clear that the loans will not be repaid in gold. The exchange is at the import specie point, and no one will go to the expense of paying the freight and insurance on a consignment of gold to a foreign country when by the purchase of a bill he can get a greater quantity of gold placed to his credit there without any such expense. The foreign creditor may receive his money from a bill-broker, who will be entitled to receive the equivalent at the prevailing rate of exchange from the debtor in the debtor's own country. The bill-broker will find his cash balance in the creditor's country diminished and his cash balance in the debtor's country increased. He could, no doubt, correct the tendency by adjusting the rate of exchange and offering less money in the creditor's country as the equivalent of a given sum in the debtor's country. This adjustment of the rate of exchange would discourage the export of goods from the creditor's country to the debtor's country, and encourage the export of goods from the debtor's country to the creditor's country. But the presumption is that this course will not be taken. The money placed in the hands of the creditor is ready for investment. The debtor has probably found it necessary to borrow elsewhere the

whole, or the greater part, of the money which he paid to the bill-broker. The ordinary process of the renewal and replacement of capital in both countries will have been resumed when the price-movement was completed, and, apart from the creditor's action in calling in his loan, would progress at the same rate as before the disturbance in both, and in both would yield interest at the old natural rate. It follows that, as a consequence of the calling in of the loan, there is rather more money seeking investment in the creditor's country and rather less in the debtor's country than there was before the disturbance. This situation will be reflected in the relative prices of similar securities in the two countries, and the bill-broker will find it profitable to take advantage of this and to apply the money which he received from the debtor to investments made on the spot. The result will be that the renewal and replacement of capital in the two countries will keep pace, but that the foreign indebtedness of the country in which the monetary stringency originated will have been permanently increased. In other words, the calling in of the loan has no effect on the relative indebtedness of the two countries at all. Indeed, it should be pointed out that the process of renewal and replacement of capital is retarded during a depression and there will probably be some shortage of capital in the area of stringency, as compared with foreign countries, when the depression is over. If this is so the openings for investment there will be slightly more profitable than usual, and there will actually be some further growth in its foreign indebtedness.

The effects of a contraction of the currency of a gold-using country in a gold-using international system may

be summarised as follows: Gold flows from foreign countries to the area of stringency in response to the high rate of interest, more quickly from the nearer and more slowly from the more distant countries. While this process is at work the rates of interest in foreign countries are raised, more in the nearer and less in the more distant countries. As soon as the bankers' loans have been brought into the proper proportion to the stock of gold, the rate of interest reverts to the profit rate in the area of stringency, but the influx of gold continues from each foreign country until the average level of prices there has so far fallen that its divergence from the average level of prices in the area of stringency is no longer great enough to cover the cost of sending the gold.

So long as any country is actually exporting gold the rate of interest will there be maintained somewhat above the profit rate, so as to diminish the total amount of bankers' loans *pari passu* with the stock of gold.

At the time when the export of gold ceases from any foreign country the rate of exchange in that country on the area of stringency is at the export specie point; and the exchange will remain at this point indefinitely unless some new influence arises to disturb the equilibrium. In fact, the whole economic system will, in the absence of such influence, revert to the stable conditions from which it started.

These may be taken to be, broadly, the stages of the process by which a contraction of the currency in one country reacts on the others. There are still some details, however, which require to be filled in.

During the first stage, when high interest prevails in the area of stringency, and the rate of interest is raised,

though to a less extent, in the neighbouring countries, every country will experience some fall in prices, and there will be a tendency on the whole for the greatest fall to be recorded in those which are nearest and in which for that reason the rise of the rate of interest is greatest.

But though we can say that in given conditions the greater the rise in the rate of interest above the profit rate the more pronounced will be the fall in prices, yet in the various foreign countries the conditions cannot be assumed to be uniform. In some of them wages and prices will be more sensitive to changes in the total of purchasing power than in others. Suppose, then, that in one country a given rate of withdrawal of gold depresses wages and prices more quickly than in the others. Initially the rate of interest must be raised to the point which maintains the due proportion between the bankers' reserves and their outstanding loans, and a determinate rate of outflow of gold will ensue. But we have seen that in addition to the outflow of gold on account of loans, there is a further outflow towards the area of stringency due to the fact that the more rapid fall of prices in that area increases its exports and decreases imports. If prices fall more quickly than is normal in the selected foreign country, this latter outflow of gold will be checked, or even possibly reversed, and by this cause the divergence of the fall of prices from the normal rate will be diminished.

Thus, in general, those countries in which wages and prices are more sensitive to a diminution of purchasing power will tend to lose less gold, and those in which wages and prices resist a reduction will tend to lose more gold than would otherwise be the case. At

the end of the first phase, when the bankers' reserves are restored to equilibrium, in the area of stringency and the rate of interest reverts to the profit rate, the fall of prices will still continue. But those countries which have experienced a less proportional loss of gold will reach equilibrium at an earlier period and at a higher scale of prices than those which have experienced a greater proportional loss. This equilibrium cannot persist, for the balance of exports and imports between the two classes of countries will be upset, and gold must pass to settle the difference.

In fact, in the earlier stages gold is drawn more especially from those countries where wages and prices resist change, and in the later stages their extra loss of gold is recouped from those countries in which wages and prices have responded more readily. The fluctuation is therefore sudden and violent in the former, and gradual and mild in the latter.

This completes our examination of the effects of an isolated and abrupt contraction of the currency in one among several gold-using countries. It is unnecessary to describe in detail the effects of an isolated and abrupt inflation occurring under the same conditions. It is enough to say that the superfluous gold will flow from the area of inflation to the surrounding countries, that all the effects of an inflation as already described will be present in an intenser degree in the area of inflation and in a milder degree in the other countries in proportion to their distance therefrom.

In the foregoing investigation we have ruled out the complications which may arise from protective tariffs. The effects of the imposition of a new tariff or of the repeal or alteration of an existing tariff will be examined

at a later stage when we come to consider the possible causes of fluctuations in an international system. At present we are only concerned with the influence exerted upon a given fluctuation by protective tariffs which are assumed to remain unchanged throughout its progress.

We will now revert to the simple case of two countries with independent inconvertible paper currencies, and we will suppose one of them to have a protective tariff. Before dealing with a fluctuation in such a case we must be prepared to revise in some respects the theory previously enunciated of the rate of exchange.

In that theory the rate of exchange afforded a basis for comparing the costs of production, expressed in money, of commodities in the two countries. With that basis of comparison the products of each country fall into three classes: (1) those of which the money cost exceeds their money cost in the other country by more than the cost of transport, (2) those of which the money cost differs from the money cost in the other country by less than the cost of transport, and (3) those of which the money cost is less than their money cost in the other country by more than the cost of transport. The rate of exchange between the respective units of currency was then seen to be such that the value of the goods of class (1) imported must just balance the value of goods of class (3) exported, subject to the necessary correction for other liabilities, such as interest on borrowed capital.

If, however, one of the two countries levies duties on imported goods, then for that country the goods of class (1), which are of course for the other country the goods of class (3), must be confined to those of which

the cost of production exceeds their cost of production in the other country by at least the cost of freight plus duty. This will of course diminish the amount of goods in class (1) and increase those in class (2), leaving class (3) unchanged. Therefore the rate of exchange which would produce equilibrium under free trade conditions will not do. The unit of currency in the protected country must be equivalent to rather more units of the currency of the free trade country. This will increase the money cost of production of all commodities in the protected country expressed in the currency of the free trade country. Some goods which could at the free trade rate of exchange have been profitably exported will fall back into class (2), while some which, under the protective tariff and with the free trade rate of exchange, would have passed from class (1) to class (2), will with the adjusted rate of exchange be retained in class (1) and be profitably imported. The most conspicuous effect is to diminish the total volume of international trade, the exports from the protected country being in the end affected in the same degree as the imports into it.

The rate of exchange between the two countries no longer expresses the relative purchasing powers of their respective units of currency. Even under free trade conditions this is only approximately true, for the prices of the same commodity in the two countries may differ by any amount not exceeding the cost of transporting it from either to the other. Any commodity will be cheaper in the exporting than in the importing country, and in the case of some commodities the cost of transport forms a very large proportion of the cost of production; but, as exports and imports balance,

the rate of exchange will very nearly express the ratio of purchasing power.

Where, however, there is a protective tariff, imported goods will command prices representing the equivalent of their cost of production *plus* the cost of transport *plus* the customs duty. And in some trades, though the effect of the tariff will be to prevent any goods being imported, prices will yet exceed (though by less than the duty) the equivalent of the cost of production abroad *plus* the cost of transport.

If of two countries one has no tariff and the other has a tariff of 20 per cent on imported goods, then the goods exported from the former to the latter will be 20 per cent dearer (apart from freight) in the protected country than in the free trade country, while the goods exported from the protected country to the free trade country will (apart from freight) be at the same price in both. Other goods may be dearer in the protected country by any amount not exceeding 20 per cent (together with freight). Probably, therefore, the ratio of purchasing power will differ by something comparable to 10 per cent from the rate of exchange.

In the case of gold-using countries it is still true that the rate of exchange cannot pass the specie point. Therefore, in order to maintain the higher level of prices there must be in a protected country a proportionately greater supply of gold.

Subject to these observations very little alteration requires to be made on account of the existence of protective tariffs in the description already given of the effects of a depression in an international system. If from any cause the stock of purchasing power in one country is diminished, the other countries will tend to

export gold to make up the deficiency. This tendency only ceases when the other countries have suffered such a diminution of purchasing power, and the area of stringency has made such a corresponding gain of purchasing power, that their prices for foreign trade purposes no longer differ so much as to keep the exchange beyond the specie point. The prices of goods for foreign trade purposes will therefore have fallen in approximately the same proportion everywhere, subject to the margin allowed by the cost of remitting gold. For example, if the prices at the area of stringency have fallen 5 per cent, then in a country from which the cost of remitting a sum in gold is ½ per cent they will have fallen 4½ per cent, or in a country from which the cost of remitting is 1 per cent they will have fallen 4 per cent. But in a country with a protective tariff equivalent on an average to 50 per cent of the value of the imported goods, and involving a difference of, say, 25 per cent in the average level of internal prices, the effect on internal prices may be different from the effect on prices for the purpose of foreign trade. If the tariff is composed of *ad valorem* duties, then, as the prices of imports fall, the duties will fall, and the proportional fall of prices will be exactly the same as under free trade. But if the tariff is composed of specific duties, i.e. of duties assessed at so much per unit of quantity of each kind of goods taxed, then the fall of internal prices will be less than in proportion to the fall of foreign trade prices. For instance, if prices in the area of stringency have fallen 5 per cent, and if the cost of remitting gold is 1 per cent, the prices of the exports and imports between the protected country and that area will be diminished by 4 per cent. But the duties still remain

equal to 50 per cent of the old level of prices of imported goods. The foreign trade prices have dropped from 100 to 96, but the prices of imported goods have only fallen from 150 to 146, and the general level of internal prices from 125 to 121, or 3·2 per cent. The reason of this is that the old duties are made slightly more protective by the enhanced value of the gold in which they are paid.

It is also necessary to notice that a greater quantity of gold is required to produce a given proportional change in the level of prices in a protected than in a free country. Fluctuations arising out of the banking system will therefore have greater international consequences, if they occur in a protected than in a free trade country.

X

SOCIAL AND ECONOMIC CHANGES

We started to consider the problem of fluctuations in an abstract community, without banks, and without neighbours. We have now removed these limitations and so proceeded from the abstract towards the concrete. One other limitation remains. We have assumed that apart from a single isolated cause of disturbance the economic conditions have been and would continue to be perfectly stable.

To bring our theory into touch with the actual conditions of the world we must remove this last limitation. This means that we must take into consideration all those economic changes, whether progressive or transitory, which arise from social and industrial causes. We find an increasing population, with an increasing output and an increasing accumulated store of material wealth. We also find habits and tastes and productive methods changing.

The growing population, in spreading over the earth's surface, is guided by its own convenience. For the due organisation of human endeavour, men must be near one another. Therefore new communities are founded preferably in those places from which there is readiest communication with the centres of civilisation already in existence. A new community requires from its very beginning to be furnished with a certain minimum of

accumulated wealth or capital. Its members must have houses, furniture, clothes, and a preliminary stock of food and perishable necessaries. The area occupied must be opened up with harbours, roads, and railways and other lines of communication, and a supply of ships, vehicles, rolling stock, etc., must be provided. And for whatever industry is to be carried on, whether agriculture, mining, or manufactures, the necessary plant, including buildings and machinery, must be set up.

The new communities grow out of the old as branches from a tree. It is only by intercourse with the old communities that the new can provide themselves with the necessary stock of capital. And, like a tree, a human colony takes root. Once the preliminary stock of fixed capital has been created it can only be deserted at a heavy sacrifice. The population of the world are always committed to using the fixed capital and inhabiting the dwellings which already exist. The amount of labour involved in the building of new towns and the making of new lines of communication is so great that no very extensive change can be made except gradually and over a long period of time.

Every year, however, the population of the world increases by several millions, for whom as they grow up new fixed capital has to be provided. The places where this new fixed capital is set up are chosen for many reasons. On the one hand, the needs of social, political, and economic organisation prompt the new generation to settle as near as they can to the centres of population from which they have sprung. On the other hand, the growing population requires an ever-increasing supply of natural products, organic and inorganic. Under the

influence of the former causes each year's accretion of adult population tends to build itself streets, shops, and houses in the most accessible places in the immediate neighbourhood of an existing town or village. Under the influence of the latter they tend to migrate to places of which the natural resources are still undeveloped. By the one tendency they are concentrated, by the other scattered.

Nevertheless, the scattering tendency is always governed by the necessity for communication. New areas are first brought under cultivation to supply the needs of the communities already in existence; they must be able to import from those communities the wealth necessary to capitalise their undertakings, and they must be able to export their own products in repayment. Therefore at any moment only those areas which are within reasonable reach of existing lines of communication are being developed. Moreover lines of communication, whether roads and railways or harbours and ships, are not indefinitely and capriciously extended. They represent a vast amount of concentrated labour, which the world can only afford to expend when some substantial economic gain (as measured against the gain which might be derived from an alternative application of the labour) will be realised.

When colonists penetrate into a new area to develop its natural resources, they quickly reproduce the social conditions to which they have been accustomed. They find it necessary to create markets at the points at which it is convenient to collect their produce for export; and these points, chosen for convenience of communication with the interior of the colony and with the outside world, are for the same reasons the most

convenient headquarters for political, economic, and social organisation. The result is that even in the process of scattering over the undeveloped area they create new points of concentration.

There still remains, however, a marked difference between a "new" country and an "old" country. The new country is less thickly populated in proportion to its natural resources. From that it follows that the new country can supply itself with food and raw materials at a less cost of labour than the old. Each new line of communication is a conduit through which the resources of the area into which it penetrates flow out into the world. Thus the new countries, on the whole, export food and raw materials to the old. The old countries must export manufactures in return.

As we have seen, the development of a new country is limited by the rate at which capital can be provided. If the new country were isolated and self-contained, only a limited portion of its productive power could be applied to capital expenditure. To maintain the inhabitants in health and reasonable comfort a certain portion of the annual output must take the form of commodities ready for consumption, and only the surplus of productive power, remaining available after these commodities have been provided for, can be applied to capital extensions. The fact that a great part of the commodities required for consumption can be imported sets free a corresponding part of the country's productive power for capital extensions, and the capital extensions can be still further accelerated by the importation of machinery and other commodities for use in production.

In order to obtain this supply of capital the new

country must be prepared to compete with the capital requirements of the old. In the old country there are openings for investment in providing for the needs of that part of the increment of population which remains at home, as well as in improving and extending existing economic enterprises. But all these exist in the new country in due proportion to the amount of population and industrial enterprise already to be found there; and in addition there are the openings offered by projects of new lines of communication with an undeveloped interior, or of the further development of the country to which existing lines of communication have only recently penetrated.

Thus the old and more populous country is usually in the position of exporting capital to the new and less populous country. It should be remarked, however, that the development of the new country presupposes a certain continuance of immigration. It is no use putting fixed capital into the new country unless labour is forthcoming to man the fixed capital when it is completed. The first colonists will man the initial supply of fixed capital, but thereafter the development of the country will need both further supplies of colonists and further supplies of capital.

Besides these phenomena of the steady growth of wealth and population, there are innumerable other sources of economic change. Some work in the same direction over long periods of time, such as the growth of technical knowledge and the consequent improvement in productive processes. Others are only temporary, such as changes of habits and tastes. For the most part these need not be considered in detail. But before facing our main problem of how fluctuations are brought

about by the circumstances of the actual world, it will be useful to examine for a moment the practical conditions under which the supply of currency is carried on.

Hitherto we have assumed an arbitrary change in the available stock of currency as the starting-point of our investigations, and we must satisfy ourselves whether such changes may play an important part in practice as well as in theory. The great commercial nations of the world, as we have seen, employ a gold standard. Most other nations either employ a gold standard or use paper or overvalued silver of which the gold value is kept as steady as possible by a careful regulation of issues and withdrawals. A few states of slight economic importance use inconvertible paper of no fixed metal value. China almost alone adheres to a silver standard. Thus the world's supply of currency practically means the world's supply of gold.

If other commercial, industrial, and banking conditions are to remain substantially unchanged, it is evident that the annual supply of gold must keep pace with the growth of population in the gold-using countries. If that population increased by 1 per cent per annum and there were no fresh supply of gold, then prices would fall by 1 per cent per annum, and the rate of interest for any loan for a period over which these conditions were expected to continue would be 1 per cent below the natural rate. To maintain the average level of prices and incomes unaltered the stock of gold in the world must increase at the same rate as the population. Gold is practically indestructible, and the annual amount withdrawn by loss or wear from the total stock is small. The annual production of gold

in the world, though it may vary, is always more than sufficient to cover the decrease due to these causes.

Materials do not exist for making any very trustworthy estimate of the stock of gold in the world and the proportion thereto of the annual production. The stock of gold in use as coin, or as bullion practically taking the place of coin, is probably from £1,250,000,000 to £1,500,000,000. I know of no estimate of the amount in use as plate, jewellery, and for other such purposes. About twenty years ago the annual production had fallen off, and reached a minimum of below £20,000,000. With the development of the South African and other mines, and improvements in the processes of gold mining, the production has risen steadily and now exceeds £90,000,000 a year. These statistics go far to explain the low rate of interest which prevailed in the 'eighties (when in this country the debt was successfully converted) and in the 'nineties (when Consols rose to 113⅛) as compared with the high rate which has prevailed in recent years when all gilt-edged securities have been falling continuously. Such vagaries in the annual gold supply are very important. But the changes usually occur over such long periods that trade accommodates itself to them almost insensibly, and they do not of themselves cause alternations of "good" and "bad" trade. We shall find it necessary to return to this subject in a subsequent chapter.

A country which produces gold will export the gold to that place at which it will command the highest price. The price received for the gold will take the form of a payment for a bill at the prevailing rate of exchange on the place to which the gold is sent. The place

selected as the destination of the gold will be that on which the rate of exchange is at the highest premium. A gold-producing country is of course saturated with gold, and exchange on any foreign country is likely to be at a premium. As the rate of exchange represents approximately the relative purchasing power of gold in the two areas between which it obtains, this premium will be highest in the case of exchange on that country in which the purchasing power of gold is for the time being greatest. In other words, gold flows from the gold-producing country to those places at which for the time being there is the greatest scarcity of gold. This scarcity may occur in a new country the immigrant population of which requires to be supplied with currency as with all other forms of material wealth; a part of the new gold must also be distributed among the old countries, where the population may be assumed to be growing, though no doubt less rapidly than in the new. But though in the long run it will be used to meet the needs of the additional population, the immediate movements of the gold will be determined by the state of the exchanges for the time being, and it may wander through several countries lying under the shadow of temporary depressions before it finds its ultimate destination.

This process is noteworthy in that the flow of gold from the mines to the places where there is a scarcity of purchasing power tends to relieve the stringency at those places without draining the existing stock of gold away from the neighbouring areas. But though the movements of new gold influence trade fluctuations in this and other ways, only exceptional and sudden changes in the gold supply, such as the discovery of

rich new mines, would actually cause fluctuations. And even when such changes occur their consequences must be worked out in conjunction with those of the many other causes which are likely to be operating in the same or the contrary direction.

XI

FLUCTUATIONS OF SUPPLY AND DEMAND

In Chapter VII we have already seen the manner in which a trade fluctuation may arise in an isolated community through an imperfect adjustment in the banking system, and we there considered the effects in the same direction of various changes in the conditions of production and consumption. The upshot was that, whereas the influences arising out of the banking system are very important, those which arise from the conditions of production and consumption have but little bearing (except perhaps in the case of actual famine) upon the state of trade as a whole. In reopening in the wider field of an international system the question of how fluctuations are caused, we must review the conclusions reached in that chapter.

It will be convenient to deal with the conditions of production first. In Chapter VII we traced the consequences of changes first in the demand and then in the supply of a single commodity. To extend the argument from the isolated community to the international system we must now consider the effect on one country of changes in the demand for its products in another. To begin with, we will again simplify the problem by assuming that there is no international metallic medium of exchange, but that each country has its own inconvertible paper currency. Suppose, then, that there is

a diminution in the world's demand for some specified commodity, for instance, hats. If every country supplied its own demand for hats and no more, the effects of this diminution would be practically the same as in a self-contained community. The case now to be examined is that in which there is some foreign trade in hats. Given that a country has an export trade in hats, what will be the effect upon it and its neighbours if the demand for hats is diminished?

The falling demand will first make itself felt in a slackening of the retailers' business. This will be spread uniformly over all countries. The retailers will then give smaller orders to the wholesale dealers and manufacturers, and the manufacturers will reduce their prices in order so far as possible to maintain their output and keep their plant and labour employed. As other trades are *ex hypothesi* enjoying the same demand as before, the general level of wages will be maintained, and it will be more difficult than in a time of general depression to reduce wages in the hat trade. But whatever the exact process of adjustment may be, the net result will of course be that the gross receipts of the hat business will be less than before, and there will ensue the following consequences:—

(1) The balance of international trade will be disturbed, the exports of the hat-producing country having been diminished.

(2) The hat manufacturers' business will be carried on on a smaller scale. They will need smaller balances with their bankers to pay (*a*) for less raw material, *etc.*, (*b*) a smaller wages bill, (*c*) smaller profits and dividends.

(3) The hat manufacturers will need at any time a smaller volume of outstanding loans to finance their restricted business.

(4) The workmen in the hat trade will be fewer and will probably receive somewhat lower wages, and will therefore hold a smaller aggregate amount of cash in their pockets and their money-boxes.

The three last-named processes may be all summed up under the single heading of a diminished share of the hat trade in the resources of the money market, and it remains to follow out still further the adjustments consequential on this and on the disturbance of the balance of international trade.

Exports from the country we are considering cease to be sufficient to pay for imports. Money which under the preceding conditions the bill-brokers would have been using to discount the hat manufacturers' bills begins to accumulate in their hands. This tendency they counter by altering the rate of exchange, so as to give more money at home in exchange for a given sum abroad. The effect is to encourage exports (relieving somewhat, but of course not entirely, the depression of the hat trade) and to discourage imports. The bill-brokers' balances then no longer accumulate, and the accumulations (representing the hat manufacturers' loss in respect of the gross receipts of their foreign trade) are dissipated among the rest of the community. In fact, the increase in the prices of imported goods (reckoned in the domestic currency) necessarily involves increased prices and an increased output of the domestic goods with which they compete.

The increased financial needs of trades other than the hat trade will therefore absorb the money and credit set free by the diminished demand for hats. While this process is at work the profits of these trades will be enhanced by rising prices, and the manufacturers and others engaged in them will be in a position to offer a correspondingly high rate of interest for loans. The hat manufacturers, meanwhile, will be making very low profits or will be working at a loss, until the restriction of output has reached the point at which the retail prices of hats are sufficient to pay all expenses of production including the maintenance of such portion of the existing plant as remains in use. A position of temporary equilibrium will be reached, in which the money value of commodities other than hats, and money wages in trades other than the hat trade, have been increased, but the labour displaced from the hat trade is still unemployed, and the superfluous capital embarked in the hat trade is idle. If the hat trade never recovers, the superfluous capital is permanently wasted, and represents a dead loss to the community. The superfluous labour will no doubt to a great extent be gradually absorbed. But the special skill of the workmen displaced will be wasted. The absorption of the superfluous labour will be accompanied by a corresponding increase in the output of commodities and a corresponding fall in money prices and money wages. When the process is completed money wages and money prices will have been put back to the level at which they stood before the depression in the hat trade, but

(1) The accumulation of capital will have been retarded.

(2) The productive resources of the country will (presumably) be less profitably applied than before.

(3) The foreign trade of the country will (probably) be permanently diminished in volume, and the rate of exchange permanently displaced.

There is no reason to suppose that any serious banking disturbance would necessarily or even probably be occasioned at any stage. The collapse of an important industry may no doubt cause a shock to general credit. If the collapse is attended with the bankruptcy of individual firms, it may be that banks which have specialised in financing the industry are involved in their fall, and that the credit of firms mainly engaged in other business, but still substantially interested in it, is so shaken that they are for the moment unable to borrow. A curtailment of credit money might ensue, which would bring with it all the phenomena of depression and perhaps even of crisis.

It is frequently argued that the depression of one trade in a country tends to cause depression in the others, inasmuch as the purchasing power of the people engaged in the trade immediately affected is diminished and they are therefore not in a position to buy so much as before of the goods produced by their neighbours. It should be noted that in the circumstances assumed this argument is not valid. The quantity of money in the country is *ex hypothesi* undiminished and the structure of incomes built upon this money as a foundation is, or at any rate may be presumed to be, unaltered. The change that has taken place is this, that the incomes are in slightly fewer hands than before, the workmen

who have lost employment having lost along with it their right to share in the national resources. When a small portion of the working classes become destitute, and the part of the national money income which they have been receiving is distributed partly among the remainder of the working classes and partly among the owners of property, there may be some slight changes in the relative demand for different commodities. But the aggregate demand for commodities remains unaltered and if the demand for some falls off the demand for the remainder is correspondingly stimulated.

But this applies only to the case where there is no international currency. It still remains to examine the case of a system of gold-using countries.

Assume again the same example as before, a hat-exporting country exposed to the effects of a fall in the demand for hats, but suppose that it and its neighbours use a gold currency. The slackening demand will of course make itself felt, as in the previous case, through two tendencies :—

(1) An adjustment of the exchange "against" the hat-exporting country.
(2) A diminution in the money (cash and credit) in the hands of the hat business.

But if the disturbance is appreciable the rate of exchange may go up to the specie point, and there will then be a tendency to export gold to pay for the excess of imports arising from the diminished export of hats. Now the bankers cannot submit to an export of gold without taking steps to bring down their loans to a proper proportion to the supply of gold which will be

left in the country. They will raise the rate of interest with the following consequences :—

(1) There will be a tendency on the part of foreign countries to lend, i.e. the liability arising from the excess of imports will be left for the moment in whole or in part outstanding.
(2) Borrowers will be discouraged and the aggregate of bankers' loans will be diminished.
(3) The bankers' gold reserves will begin to increase. The bankers will therefore soon have gold to spare, and will reduce the rate of interest again so far as to permit some gold to be exported.

How far will this export of gold go ? Suppose that the manufacture of hats represents $\frac{1}{2}$ per cent of the world's production of commodities, services, etc., but that it represents 10 per cent of the production of the hat-exporting country. Suppose, further, that the demand for hats is diminished by $\frac{1}{4}$, i.e. that the amount spent by the world on hats is $\frac{1}{4}$ of what it was. The diminished production of hats represents $\frac{3}{8}$ per cent instead of $\frac{1}{2}$ per cent of the world's production, and 8 per cent (approximately) instead of 10 per cent of the production of the hat-exporting country. Taking the gold-using world as a whole, if the total value of the gold used as currency and bank reserves is £1,500,000,000, $\frac{1}{2}$ per cent of that sum or £7,500,000 may be earmarked as the gold needed to finance the hat trade before the depression began, this sum including of course not only the reserves held by the banks against the accounts of the hat-making firms, but the gold in the pockets of all the people whose incomes are derived from

making hats or dealing in hats. If the demand for hats falls by $\frac{1}{5}$, then, after the necessary adjustments, the sum needed to finance the hat trade will have fallen to £8,000,000 and the gold available for all other business will have risen from £1,492,500,000 to £1,494,000,000, or about $\frac{1}{10}$ per cent. If the hat-exporting country has £25,000,000 of gold currency, then £2,500,000 of this will be needed to finance the hat trade before the depression and £2,000,000 afterwards. If there were no export of gold, the gold available for other industries would rise from £22,500,000 to £23,000,000, or rather over 2 per cent, and prices in those industries would rise approximately in the same ratio. This would only be possible if the rate of exchange (which apart from special causes of disturbance represents practically the relative purchasing power of gold in the two regions it relates) could rise by 2 per cent. Assume that the cost of exporting gold to the nearest foreign country would be $\frac{1}{2}$ per cent. Then the exchange cannot rise by more than $\frac{1}{2}$ per cent. Of the £500,000 of gold surrendered by the hat trade only so much can be retained in the country as will raise the £22,500,000 employed in financing other businesses by $\frac{1}{2}$ per cent, i.e. £112,500. The remaining £387,500 must be exported (*except* for a trifling proportion which can be retained because there is an increase of about $\frac{1}{10}$ per cent in the world's supply of currency for businesses other than the hat trade).

But even so equilibrium is not yet reached. For the export of hats has been diminished by 20 per cent, and if the prices ruling in other industries are the same, relatively to those ruling abroad, as before, the imports of those commodities will be unchanged. There must

therefore be a further export of gold to lower the general level of prices and so to encourage exports and discourage imports.

Thus the loss of gold is traceable to two distinct causes. First of all there is the loss proportional to the definite diminution in production, and therefore in the national income, through a portion of the capital and labour in the hat-making industry being left idle. *Secondly*, there is a further loss corresponding to the further diminution in the national wealth consequent upon the trade affected being an export trade and therefore one for which the exporting country was specially suited. In order to restore the balance of trade, commodities which it is less specially suited to produce must be exported, and this is made possible by the further depletion of the stock of gold and by the corresponding reduction of money values and of money cost of production.

There follows the final stage in which the displaced labour is gradually absorbed into other industries. As this process goes on, the gold sent away will be steadily attracted back, thus avoiding the element of falling prices and consequent depression which would mark the corresponding stage under a local inconvertible currency.

It might at first sight be supposed that under the conditions here postulated it is broadly true to say that the depression of one industry is communicated to the others. It is the case that the export of gold prevents these other industries being actually stimulated. But nevertheless, it is not true that they share the depression. For the curtailment of exports leads to a corresponding curtailment of imports. The diminution of the

purchasing power of the persons engaged in the industry affected is measured by that very curtailment of exports, and is just compensated by the increased domestic demand for commodities arising from the curtailment of imports.

We thus arrive at the conclusion that a diminution of demand in one industry, though it may cause heavy losses and great distress, will not in general affect other industries adversely and will not, in fact, produce a *general* trade depression.

After considering in detail the effects of a curtailment of demand for any commodity in an international system it is hardly necessary to deal at length with the effects of an expansion of demand, since the latter phenomenon differs little from a mere reversal of the former. It will therefore be more profitable to proceed at once to consider the effects in an international system of influences bearing upon the *production* of a commodity.

The causes affecting production may be either local or general. Climatic irregularities, political disturbances, labour troubles, discoveries of new sources of supply, are usually local. But some of these may be world-wide in their operation; and some causes are usually of universal operation, such as the invention of improved processes. It will be simplest to begin with a universal influence, and proceed afterwards to the consideration of a local influence. We assume the influence to be universal in the sense that it affects equally all sources of production. Those sources of production must be supposed to be unequally distributed among the different communities which constitute the international system; otherwise the problem would

not differ appreciably from that of the self-contained or isolated community. But the local distribution of the processes of production has nowadays become highly complex. There are many stages in the production of a single finished article; the different stages may take place in widely distant places; the same raw material may enter into the production of many different commodities. A cause affecting production may act upon the supply of the raw material, or on any of the subsequent processes. For the sake of simplicity we will start by assuming that the commodity concerned is brought up to a certain definite stage of manufacture at its place of origin and that the remaining stages are invariably completed in the country in which it is to be consumed, so that the goods in transit are always at the same uniform stage of manufacture. We shall thus be concerned only with the local distribution of the producers in the producing countries, and of the consumers (with their attendant producers) throughout the international system, and there will be no intermediate manufacturers with a different local distribution to complicate the problem.

Now let some influence operate to diminish the output of the commodity to be obtained from the given economic agencies, in the form of labour, capital, and land, devoted to its production. We saw in Chapter VII that the effect of this on the market must depend on whether the demand for the commodity is "elastic" or "inelastic." In the former case when the cost of production and therefore the price rises the aggregate sum spent by the consumers upon the commodity *diminishes*, in the latter case the aggregate sum so spent *increases*.

The first effects of the diminution of output will be

that at existing prices the receipts from sales will no longer be sufficient to pay the expenses of production, while at the same time the manufacturers can no longer keep pace with the orders of the wholesale dealers. There must, therefore, at once be an increase of price, and the character of the demand will determine how far the increase of price can go. If the demand is elastic the increase will stop before the aggregate receipts from sales have reverted to the previous figure; if the demand is inelastic the increase will be sufficient to carry the aggregate receipts beyond the previous figure. In either case the subsequent phenomena are very similar to those which occur when it is the demand for a commodity which is directly affected, the former case corresponding to a flagging demand, the latter to an expanding demand. It is therefore unnecessary to trace in detail the various developments; the decrease (or increase) of the financial requirements of the industry affected; the passage of gold to (or from) that industry from (or to) other industries; the consequent export (or import) of gold from (or into) the producing countries; or the incidental effects on the balance of trade and the rate of exchange. The only important difference is that the diminution of the quantity of the commodity obtained by a given expenditure of economic effort must be written off as a clear loss before the effects of the change in demand are taken into account at all. In just the same way the effects of increased production will correspond, according as the demand is elastic or inelastic, with those of increased or decreased demand. And of all these occurrences it is uniformly true that outside the particular business directly affected there is no trade fluctuation properly

so called, or at any rate none of material importance. An exception is to be found in the case of actual famine, where (as in the case of a self-contained community) the reaction upon other industries becomes considerable. But the production of the necessaries of life is so widely distributed over the world that a world-wide famine is very unlikely to occur. The effects of a scarcity of raw material on the manufacturing communities, as distinguished from the producing communities, are of course excluded by our hypothesis.

This hypothesis can now be removed, and intermediate processes of manufacture having a local distribution different both from that of the production of the raw material and from that of the consumption of the finished product may be admitted to consideration. How, then, will a locality, which imports the raw or incomplete article and exports it after applying to it one of these intermediate processes, be affected by an increase or decrease in the supply of the raw material? Consider first a decrease. A continuance of work at the existing rate will begin to deplete the stocks of raw material. Those stocks cannot be replenished as quickly as before, and consequently the manufacturers will curtail the orders which they will accept from the wholesale dealers. This restriction in supply will elicit from the consumer a higher retail price, and the wholesale dealers will thus be enabled to offer a higher price to the manufacturers, who in turn can offer a higher price for the raw materials and so get an increased supply (though not, of course, equal to the old supply, otherwise the higher retail price could not be maintained). Under conditions of free competition, the manufacturers would find their plant and their hands under-

employed, and would be willing to accept a price just sufficient to cover the cost of raw material *plus* working expenses. This would still be so, even if the demand were inelastic, so that the aggregate receipts from sales of the finished product were actually greater than before the scarcity. The whole advantage of these increased receipts would be passed on to the producers of the raw material. In fact, whether the demand is elastic or inelastic there will always be a diminution of output, and the manufacturing communities will suffer both by having less work and by earning less for the work they have. In other words, they experience precisely the results which would follow a contraction of demand.

All the foregoing examples of causes affecting production have been confined to cases where the operation of the cause is uniform in its effects over the entire production of the commodity concerned. A further complication arises where the disturbance is local. For example, how will a country be affected by an exceptionally good or exceptionally bad harvest? It is a commonplace of the money market that a country which has a good harvest in any year will need money and, if a gold-using country, will need gold. The distinguishing feature of a local variation in production is that it does not have the same effect on prices as a world-wide variation affecting the entire production of one commodity. Thus a good harvest in one country has usually relatively little influence in diminishing world prices. The elasticity or inelasticity of demand becomes a matter of minor importance and the money value of the harvest in the world's markets is more or less proportional to its volume.

When the harvest is reaped and comes into the market there will be a greater surplus for export (or a smaller deficiency to be made up by imports) than in a normal year, and there will thus arise a balance of indebtedness from foreign countries. The farmers may invest part of their exceptional profits abroad, but part, at any rate, they will either spend or invest at home, and as the money comes to be remitted to them for that purpose the bill-brokers will find their balances diminishing and will adjust the rate of exchange towards and probably up to the import specie point. Sufficient gold will then be imported to raise prices and stimulate imports up to the point at which they pay for the exceptional exports, or at any rate for such portion of those exports as cannot be set off against exceptional investments abroad. This importation of gold may begin before the harvest is actually reaped. For as soon as the exceptional yield is foreseen the farmers will want to borrow more money than usual to pay for the cost of reaping, carrying, etc., and the bankers will be ready to lend more than usual in anticipation of the farmers' swollen profits. But the bankers must have larger supplies of gold to support the increased loans; they will raise the rate of interest and will so attract gold from abroad. When the whole harvest has been disposed of and sufficient imports have been obtained in exchange, the surplus gold will be sent abroad again.

It should be observed that the gold is not imported from abroad to discharge the balance of indebtedness *directly*. Indeed, as it is not ultimately retained it does not affect the balance of indebtedness in the long run at all. The balance of indebtedness is discharged by the increased importation of goods, and only so much

gold need be imported as will stimulate imports in the required degree.

Incidentally the importation of gold also stimulates domestic trade, so that the good harvest reacts favourably for the time being on the general state of trade in the country. But the contrary effect is experienced when the gold is sent abroad again later on and prices return to their old level.

Just as an exceptionally good harvest necessitates the import of gold, so will an exceptionally poor harvest lead to the export of gold. And, of course, if production is checked or stimulated in any other way the effect is the same. For example, a prolonged labour dispute will diminish the financial needs of the industry affected. The industry will not be in a position to undertake new orders (which would involve new borrowings), and though loans already obtained for existing orders will in many cases have to be in part renewed, the employers will not be paying their usual weekly wages bills; they will, on the whole, be able to diminish materially their outstanding indebtedness, and will draw much less cash than usual against their current accounts. At the same time the workmen will be subsisting on strike pay, savings, and credit, and their weekly budgets will be less than when they are receiving their full earnings. The average amount of cash in their pockets will be correspondingly less. Taking the personnel of the industry as a whole, therefore, they will in the course of the dispute part with a great portion of the cash and credit money which is ordinarily in their hands. The cash set free will tend to stimulate other industries, to push up the rate of exchange, and, if the dispute is important and prolonged, to find its way

WORKS BY HARTLEY WITHERS

Editor of "THE ECONOMIST."

"Numerous instances of the Wisdom of Withers, culled from a ripe experience and put into literary shape by a trenchant, and occasionally caustic, pen."—
The Financial News.

Uniform with this volume

THE BUSINESS OF FINANCE
Second Impression.

THE MEANING OF MONEY
Twentieth Impression.

STOCKS AND SHARES
Sixth Impression.

MONEY CHANGING
Second Impression.

WAR AND LOMBARD STREET
Fourth Impression.

INTERNATIONAL FINANCE
Third Impression.

POVERTY AND WASTE
Third Impression.

BAGEHOT'S LOMBARD STREET
Third Impression.

OUR MONEY AND THE STATE
Second Impression. 5*s.* 6*d.* *net.*

LONDON: JOHN MURRAY.

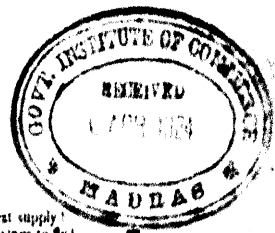
FIRST EDITION . . . . . *August*, 1919
Reprinted . . . . . *January*, 1920

WAR-TIME FINANCIAL PROBLEMS

BY

HARTLEY WITHERS

REFERENCE



"Blest paper credit! last and best supply!
That lends Corruption lighter wings to fly!
Gold imp'd by thee, can compass hardest things,
Can pocket States, can fetch or carry Kings;
A single leaf shall waft an Army o'er,
Or ship off Senates to a distant Shore;
A leaf, like Sibyl's, scatter to and fro
Our fates and fortunes, as the winds shall blow:
Pregnant with thousands flits the Scrap unseen,
And silent sells a King, or buys a Queen."

Moral Essays.

LONDON
JOHN MURRAY, ALBEMARLE STREET, W.
1920

PREFACE

At a time when Finance is of greater importance than ever before, it is hoped that this small volume may be of interest and value to the public, and help the application of war's lessons to the problems that face us in peace.

The contents, with the exception of the last article on "Money or Goods?" (which appeared in the Trade Supplement of the *Times* for December, 1918), have already been published in *Sperling's Journal*, from September, 1917, to March, 1919; they have been left as they were written, except for a few verbal corrections.

I desire to express my thanks to the Editors of *Sperling's Journal* and of the *Times* for their kind permission to reprint the articles.

H. WITHERS.

June, 1919.

CONTENTS

I

THE OUTLOOK FOR CAPITAL — PAGE

The Creation of Capital—The Inducement—War and Capital . 1

II

LONDON'S FINANCIAL POSITION

London after the War—A German View—The Rocks Ahead—Our Relative Position secure—Faulty Finance—The Strength we have shown—The Nature and Limits of American Competition—No other likely Rivals 15

III

WAR FINANCE AS IT MIGHT HAVE BEEN—I

Financial Conditions in August, 1914—No Scheme prepared to meet the Possibility of War—A Short Struggle expected—The Importance of Finance as a Weapon—Labour's Example—The Economic Problem of War—The Advantages of Direct Taxation—The Government follows the Path of Least Resistance—The Effect of Currency Inflation 31

IV

WAR FINANCE AS IT MIGHT HAVE BEEN—II

The Changed Spirit of the Country—A Great Opportunity thrown away—What Taxation might have done—The Perils of Inflation—Drifting stupidly along the Line of Least Resistance—It is we who pay, not "Posterity" 48

V

A LEVY ON CAPITAL

The Objects of the Levy—Its Origin and History—How it would work in Practice—The Attitude of the Chancellor—The Effects of the Scheme in discouraging Thrift—Its Fallacies and Injustices—The Insuperable Obstacles to its Application—Its Influence on Production—One of the Tests of a Tax—Judged by this Test the Proposed Levy is doomed . . . 63

VI

OUR BANKING MACHINERY

The Recent Amalgamations—Will the Provinces suffer?—Consolidation not a New Movement—The Figures of the Past Three Decades—Reduction of Competion not yet a Danger—The Alleged Neglect of Local Interests—Shall we ultimately have One Huge Banking Monopoly?—The Suggested Repeal of the Bank Act—Sir E. Holden's Proposal 76